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APPENDICITIS*

A SYMPOSIUM

THE AIMS OF THE APPENDICITIS COMMITTEE OF THE SURGICAL SECTION OF THE SOUTHERN MEDICAL ASSOCIATION

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At the last annual meeting of the Southern Medical Association, a committee of three (composed of Drs. J. M. T. Finney, Jr., chairman, Jerry L. Crooks, Jackson, Tenn., and Isidore Cohn, of New Orleans), was appointed to investigate the mortality resulting from appendicitis in the Southern area.

On March 29, 1939, the members of this committee met in Nashville, Tennessee. "The aim and purpose of the Committee was defined as being to undertake an educational campaign toward the lowering of the death rate from appendicitis throughout the South." (Minutes of the committee's meeting.)

In order to facilitate the committee's work, a chairman for each state was appointed. The chairman of each subcommittee was empowered to appoint his own committee. An outline for the subcommittee's activity was sent out by the chairman. This outline has already been published[1] and therefore, it need not be repeated at this time.

It was definitely the feeling of the central committee, that each subcommittee should endeavor to obtain the complete cooperation of federal, state, county, and city authorities, in their respective states. It was further the feeling that every possible use should be made of radio programs, and public lectures by members of constituent medical bodies, so that the interest of all organized components of state medical groups should have a part in the program, thus giving a wider distribution of the available information.

Our interest and that of the public centers in the fact that the mortality rate which results from a primary disease within the appendix is too high. Reference to all statistical studies indicates that the mortality which remains so high, is the mortality of delay.

In an editorial, in the American Journal of Surgery, Guthrie[2] said: "Without doubt, the delay of the patient in seeking medical relief, and medical treatment of the attack, the use of purgatives and of morphine, and the mistake of diagnosis, are the main causes for this unnecessarily high mortality."

Garlock,[3] of New York, has written: "The mortality rate of acute appendicitis is directly dependent upon the length of time between the onset of symptoms, diagnosis, and operation."

Reid, et al,[4] have stated: "Over ninety-eight per cent of the deaths from appendicitis were due to the complications accompanying perforation.

"The mortality rate in acute unruptured appendicitis is .86 per cent; the mortality

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rate due to rupture with peritonitis is 33.9 per cent.

"The percentage of perforations has decreased very little during the past three years.

"The average time elapsed between the onset of symptoms, and admission to the hospital was 3.8 days, much too long for proper surgical treatment, and the mortality rate will remain high as long as patients are not operated on earlier."

A study of Reid's tables indicates that the elapsed time between the onset of the acute attack and admission to the hospital has diminished very little since 1924, when it was 3.7 days; in 1933 it was 3.5 days.

John O. Bower,[5] of Philadelphia, stated: "There is practically no mortality from acute appendicitis; patients die of peritonitis, not appendicitis." From Bower's tables, we see that of 12,250 patients with acute appendicitis operated upon, one in 83 died, while of 2,573 patients with acute appendicitis operated upon with spreading peritonitis, 694, or one in four, died. Of the total number of cases investigated by Bowers, 18,687, 849 died, or one in 22.

According to Hoffman,[6] the average mortality rate of appendicitis per 100,000, in Philadelphia, was 13.4 from 1928 to 1933. During the same period in the United States, it was 17.1. The average mortality of spreading peritonitis in Philadelphia was 26.97 per cent. According to this ratio it must have been at least 33 per cent throughout the United States.

The above quotations certainly bear out the statement, that the mortality is the mortality of delay. It should be accepted as axiomatic that the one way to reduce mortality is to make an early accurate diagnosis, and to operate at once. To solve the problem involves the question of early diagnosis, how to do what is to be done, and when to do it. Surgery is indicated in the presence of acute appendicitis, and delay is indicated in peritonitis.

The time element is a variable factor which cannot be dogmatically given. Proper information to the public on the importance of early medical attention to abdominal pain, the avoidance of purgatives, and insistence on early operation will save many lives. Dogmatic teaching to medical students and the public that a definite sequence of events must occur in order that a diagnosis of acute appendicitis be made, is a pernicious teaching. The classic picture so often insisted upon is rarely present. Delay on the part of the attending physician until a classic picture presents itself, results in perforation and peritonitis, the two factors which are responsible for high mortality.

The mortality from diphtheria at one time, that is, prior to the introduction of von Behring's serum, was extremely high. Following the introduction of the serum for treatment, the mortality gradually diminished. The rate diminished in proportion to the time at which a diagnosis was made and treatment instituted, and in proportion to the effectiveness as evidenced by the proper use of serum. With the introduction of prophylactic measures, diphtheria has ceased to be one of the great causes of mortality among children.

SUMMARY

Early diagnosis and early adequate treatment of appendicitis will diminish the fearful mortality from appendicitis, which at present is a definite acute surgical catastrophe.

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THE DIAGNOSIS OF ACUTE APPENDICITIS

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Any physician who comes in frequent contact with acute appendicitis, as does the surgical resident in a large hospital,

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promptly and not unreasonably develops the suspicion that any sort of pain anywhere in the body may be the first warning of acute appendicitis, which may be present even when this supposedly infallible symptom is absent. I am not being facetious when I make that blanket statement. As I look back upon my own surgical residency at the New Orleans Charity Hospital, I can recall case after case which proves my point. I can recall, for instance, the appendiceal abscess found at operation in an ambulant white man who had a vague and altogether innocent history and who had no positive physical findings of any sort. I can also recall the fatal spreading peritonitis of appendiceal origin in a child in whom the chief finding was distention and who was sitting up in bed playing with a doll when I first saw her.

In his zeal to educate the layman in various medical matters, the physician must not forget his own education. The necessity for his education in acute appendicitis has not yet been eliminated, as the accusing figures clearly demonstrate. Perforation and peritonitis still take their dreadful toll for two chief reasons, that delay and purgation are still practiced instead of early diagnosis and prompt operation.

SYMPTOMS OF ACUTE APPENDICITIS

In discussing the early diagnosis of acute appendicitis, it is impossible to avoid the platitude that no diagnostic method has yet supplanted the simple plan of careful history and complete physical examination. When the classical train of events has occurred, pain, nausea and vomiting, local tenderness, fever, and leukocytosis, nothing else is needed to establish the diagnosis. The important thing to remember, however, is that another sequence of events, or that the absence of one or more of these symptoms and signs, does not eliminate acute appendicitis. It merely means—again the former surgical resident speaks—that the diagnosis is made somewhat more difficult.

The same lack of conformity to an established norm applies to certain other considerations in acute appendicitis. The disease is undoubtedly most common in late youth and early adult life. But it also occurs at the extremes of life, and then, as Maes and Boyce[1, 2] have repeatedly pointed out, it carries the highest mortality and carries it for the same old reason, that diagnosis has been delayed because of the atypical nature of the symptom complex.

Appendicitis in most cases comes on with mid-abdominal pain, which, as sometimes happens in perforated peptic ulcer, frequently arouses the patient from a sound sleep. On the other hand, many patients, particularly in the older age group, give a history of flatulence or of indigestion for a few days prior to the onset of the pain, and others give a history of recurrent slight pain in the right lower abdomen.

Like the onset, the character of the pain is protean. It may be sharp, agonizing, breath-taking or constricting. It may be merely a dull, fixed ache. It tends to begin in some area other than the right iliac fossa, but it may also begin directly over the appendiceal region. The inconstancy of the position of the pain is probably to be explained, at least in part, by variations in the position of the appendix. A pelvic appendix, for instance, is likely to cause pain in the hypogastrium, a retrocecal appendix may cause pain in the lumbar region, and an ascending appendix may cause pain in the loin.

The sequence of anorexia, nausea and vomiting should be regarded as successive stages of the same symptom complex and as indicating the wide range which the manifestations of appendiceal disease may cover. The state of the bowels cannot be relied upon from the standpoint of diagnosis. Constipation is frequent, but diarrhea, especially in children, is not infrequent. The diarrhea may be caused by purgation but it may precede the taking of the medicine and may actually be a part of the symptom complex.

The menstrual history is of particular importance, and often is the only means of differentiating between acute appendicitis and such conditions as pelvic inflammatory disease and ectopic pregnancy. In this connection special emphasis should be put upon the possibility that acute appendicitis may

develop in the course of any other condition or disease, including pregnancy and menstruation. That was another thing I learned as a surgical resident. In particular, I remember two instances in which I removed gangrenous appendices from menstruating women, whose symptoms had been belittled by their physicians on the false and dangerous reasoning that acute appendicitis cannot develop during the menstrual period.

PHYSICAL FINDINGS IN ACUTE APPENDICITIS

In addition to bearing in mind the possibility, or, more correctly, the probability, that the patient's symptoms differ from those of the classical picture of acute appendicitis, the physician must bear in mind the importance of doing a complete physical examination in every case of acute appendicitis. The diagnosis of the disease, or, what is more serious, the elimination of the disease by the mere laying of hands on the abdomen should be a matter for the attention of a medical district attorney.

The composite picture is the most important consideration in the atypical case of acute appendicitis. The general appearance of the patient, the temperature, pulse and respiratory rate, serve not only to suggest or eliminate medical conditions which simulate acute appendicitis, but also offer some insight into the stage of the pathologic process and the prognosis. A low temperature, or even a subnormal temperature does not eliminate appendicitis, and to wait for a rising pulse to make the diagnosis may mean also to wait for peritonitis.

Examination of the chest is important, not only to eliminate the medical conditions which may be responsible for the symptoms, but also, if appendicitis is diagnosed, to determine the proper anesthetic. Examination of the abdomen is usually done adequately because it is an obvious necessity, but failure to examine all potential hernial orifices has brought grief to many. Rigidity is not necessary for the diagnosis; to wait for it means, again, to wait in many cases for beginning peritonitis. Furthermore, it may be slight or even absent in persons with large and flabby abdomens, and often it is absent in appendices which are pelvic or retrocecal, even when they are ruptured or gangrenous.

Hyperesthesia of the right iliac fossa does not appear in more than 50 per cent of all cases, but it is a useful sign when it is present. It may occupy all of Sherren's triangle, whether the appendix is ruptured or unruptured. In unruptured appendices, however, it is most common just to the right of the umbilicus, and in peritonitis it may be present just above Poupart's ligament. In pelvic appendicitis rectal examination is sometimes the only means of establishing the diagnosis. The obturator and psoas tests are easily performed, and Cope,[4] who has had a remarkably wide experience with acute abdominal conditions, considers them of great value.

OTHER DIAGNOSTIC MEASURES

Singer[5] has advocated the use of morphine in the elucidation of an obscure diagnosis in a restless, uncooperative patient, a proceeding in direct contrast to the dangers of such a plan as they are ordinarily drilled into students. He emphasizes, of course, that history and physical examination should be complete before the opiate is given. The method is of undoubted value in a small proportion of cases if its inherent risks are fully appreciated, but otherwise it is not safe. It is well to caution the patient, whenever it is used, that the relief of pain will not justify the postponement of surgery. Any one who has dealt with negro patients knows how important such a warning is; it is the general tendency in this race to regard the relief of pain as the signal for going home.

Laboratory examinations are mere adjuncts to clinical diagnosis and should be so considered. One expects an average white blood cell count of between 11,000 and 14,000, but I myself am no longer surprised at a normal count in a patient with a gangrenous appendix or a subnormal count in association with fully developed spreading peritonitis. The same statement holds with regard to the differential count and the Schilling count.

Urinalysis should never be omitted. One of the most confusing occurrences in acute appendicitis is the development of hema-

turia or pyuria as part of the symptom complex, a coincidence which is not infrequent if the inflamed appendix lies near the ureter. Albuminuria may suggest the possibility of uremia. A stool examination is sometimes helpful in the demonstration of parasites, but they are more likely to occur in association with chronic or recurrent appendicitis than with the acute variety.

THE DIFFERENTIAL DIAGNOSIS OF ACUTE APPENDICITIS

A discussion of differential diagnosis could easily be prolonged into a tedious rehearsal of every symptom and sign of every acute condition which can occur within the abdomen, as well as those of many diseases of thoracic, renal, and systemic origin. In actual practice each of these conditions is not called up, surveyed, and checked off or kept for further reference. As a rule, certain features of the history or of the physical examination automatically eliminate or minimize certain possibilities.

The surgical resident at Charity Hospital, so far as my own experience is concerned, must carry two chief possibilities in his mind, pelvic inflammatory disease and acute mesenteric lymphadenitis. The large proportion of negro admissions makes the differential diagnosis of acute appendicitis and acute pelvic disease an important matter which, in case of doubt, is best solved by opening the abdomen.[6] It is true that appendicitis is much less frequent in the negro than in the white patient, but I have seen more than one tragedy follow the strict application of that fact, for the disease is also far more serious. Patients in whom pelvic infection is localized on the right side furnish most of the trouble, and they seem to appear with diabolical frequency, though this, of course, is only apparent: Patients in whom localization is on the left side are not usually brought to the attention of the resident.

I must confess that in more than one instance I have opened an abdomen on the diagnosis of acute appendicitis only to find pus oozing from the right tube. I must also confess that on these occasions I have not felt particularly chagrined, for I do not forget that I once opened up a patient who clinically had pelvic disease and upon whom I had almost not operated; fortunately, I changed my mind, and I dissected a gangrenous appendix off the right tube and ovary to which it was adherent. Such circumstances may be infrequent, but the risk of overlooking them is a major catastrophe which far outweighs the risk of opening the abdomen and removing a normal appendix in a case of inflammatory disease. Operation does no harm under such circumstances, experienced gynecologists agree, provided that no radical attack is made upon the pelvic organs.

Mesenteric lymphadenitis, in the experience of the Charity Hospital resident, is to the iliac appendix what acute right-sided salpingitis is to the pelvic appendix. Absolute differentiation is frequently impossible, and fortunately little harm seems to result from exploratory laparotomy. In more than one patient I have found it hard to believe that the acute clinical symptoms were due only to the enlarged glands found at operation, yet nothing else pathologic was found.

Mesenteric lymphadenitis is characterized by its frequency in children, the frequent association of a preceding upper respiratory infection, and such symptoms and signs as fever, leukocytosis, and tenderness in the right lower quadrant. The fever is variable, but is often unexpectedly high, as is the leukocytosis. The tenderness is supposed to be present in an area roughly corresponding to the root of the mesentery, and in such cases can be traced obliquely upward and to the left from the right iliac fossa toward an area just above the umbilicus.

If acute salpingitis and mesenteric lymphadenitis could be eliminated, the chief trouble-makers for the surgical resident would be out of the way. Ureteral stones, intestinal obstruction, and ruptured peptic ulcer furnish occasional problems. I once saw the abdomen opened through a McBurney incision when a ruptured gastric ulcer was present, the confusion being caused by the passage of the irritating spillage down the right lumbar gutter to the right iliac fossa. These cases, however, are excep-

tions, and extended discussion of them is not practical.

The chief point to remember is that the appendix is a versatile mimic, and that as an actor it often feels no compunction in changing its lines until they almost cease to be recognizable. On the other hand, although the diagnosis of acute appendicitis may be difficult, to visualize the anatomic picture and pathologic changes associated with this disease, and to have the picture verified at operation, is to experience some of the satisfaction which the neurologist or the neurosurgeon experiences when he localizes a lesion of the central nervous system.

SUMMARY

1. Because the mortality of acute appendicitis is still highly unsatisfactory, the physician as well as the layman must continue to emphasize the best method of improving it, which is early diagnosis.

2. The variability of the signs and symptoms in this condition makes a discussion of early diagnosis particularly urgent, as do the possibilities of confusion with other diseases, and the heavy penalties for error.

3. The chief differential problems which must be met by surgical residents at Charity Hospital in the diagnosis of acute appendicitis include acute pelvic inflammatory disease and mesenteric lymphadenitis.

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THE MANAGEMENT OF THE PATIENT WITH POSSIBLE APPENDICITIS

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To the doctor who is called to the home to see a patient suffering with abdominal pain, several problems present themselves. The necessity for making a diagnosis is obvious, but unfortunately this is not always immediately possible. In many instances, even in this day and age when the eyes of the medical profession have been focused on the problem of acute appendicitis and the dangers attendant on purgation and delay, the signs and symptoms do not present a clear-cut picture. Of course when the classic history of vague epigastric pain, followed in a few hours by lower right quadrant pain and subsequent vomiting is offered, and is attended by right-sided tenderness and rigidity, a moderate rise in fever, say to 99°, a moderate elevation in the white blood count say to 12,000 or 14,000, an increase in the polymorphonuclear percentage with a decided shift to the left, and the urine is clear and no puzzling menstrual history is offered, the indications for immediate surgery are clear. The attitude of *laissez-faire*, best illustrated by the application of an ice bag to the side and a regimen of liquids only, has no place in the modern treatment of acute appendicitis.

Where the diagnosis of acute appendicitis is made, there is only one course to follow and that is immediate hospitalization and operation. The hope that the symptoms will subside without surgical intervention is not to be entertained. However, the patient with classic symptoms is not our problem. It is the patient, whose story is atypical, and in whom one or more of the classic symptoms are missing, who constitutes the chief worry. For example, there may be no localized tenderness; rigidity may not be present, and there may be a history of dietary indiscretion, especially a sea-food orgy. How often have we been tempted to dismiss such a patient with the diagnosis of gastro-enteritis, and have been restrained from ordering a purgative only by the fear that the case might turn out to be one of ap-

pendicitis. Suffice it to say, such a fear is a wholesome one, and should become a part of the general medical armamentarium. No harm will have been done the patient with gastro-enteritis if purgation is delayed or entirely omitted, but a purgative to an unsuspected case of appendicitis may well prove disastrous. Statistics by Hawk and Woodhouse show that perforation was four times more common in persons who had had a laxative than in those who had not. "Cathartics remove nature's splint on the intestinal tract and increase dramatically the number of cases which go on to perforation." The problem of purgation, once its dangers are sufficiently well-realized, can be dismissed with the oft quoted maxim "In the presence of abdominal pain, never give a laxative."

THE DANGERS OF DELAY

The problem of delay cannot be so lightly handled. Delay in operation more than any other single factor has been responsible for the complications of appendicitis, attendant on perforation. Delay in operation may mean that the case will pass from the group, labeled simple acute appendicitis with a mortality rate well under one per cent, into the group where the pathology has extended beyond the appendix and where the mortality is in the neighborhood of 10 per cent. Statistics compiled by the Longer Life Week Committee of New Orleans, showed that of 1848 cases of appendicitis, the mortality was 2.1 per cent for 336 patients whose symptoms had been present 12 hours; 2.8 per cent for 531 patients whose symptoms had been present 24 hours; 4.2 per cent for 359 patients whose symptoms had been present 48 hours; and 12 per cent for 530 patients whose symptoms had been present 72 hours and over. Thus we see that delay increases the patient's chances of dying six to ten times. What then is the cause of this delay, granted that the doctor is responsible for a certain portion of it? Briefly this, an inability on the part of the physician to make a diagnosis from the symptoms present, a feeling that time will clarify the matter, and an unwillingness to subject a patient to an emergency operation which might eventually turn out to have been an unnecessary procedure. But, just as an ice bag to the side and waiting is unsound in the therapy of the proved case of acute appendicitis, so too is it unsound in the management of the diagnosis of a suspected case.

FACTORS INFLUENCING THE DIFFERENTIAL DIAGNOSIS

The idea of waiting for events to develop and for the differential diagnosis to make itself clear with the lapse of time, is a pernicious one. Every effort should be directed towards making an immediate differential diagnosis. Nothing should be given by mouth, and no opiates allowed. The factors of local tenderness, pain, fever, urine, white blood count and differential are to be carefully evaluated, and supplemented by a rectal examination in all cases, and wherever possible, by vaginal examination. The less frequent positions of the appendix are to be considered, and the differences in clinical manifestations in these cases to be taken into account. For instance, where the appendix is of the pelvic type, abdominal rigidity and vomiting may be absent. The pain may be in the left lower quadrant, and the sequelae of irritation of the ureter, bladder, or rectum from the involved appendix, in the form of red blood cells in the urine, frequency of urination, or diarrhea, may be present. Rectal examination may be the only means of demonstrating tenderness.

With a true extraperitoneal, retrocecal appendix, the sequelae of peritoneal irritation in the form of reflex muscle splinting of the abdominal wall and reflex vomiting are absent, as is lower right quadrant tenderness. In these cases, the pain and tenderness will be concentrated in the right flank or back, and it is here that one will find the muscle rigidity. All these factors must be considered, and any indicated measures, necessary for differential diagnosis, such as a flat plate of the abdomen or cystoscopy to rule out stone, carried out immediately. Once the diagnosis of acute appendicitis cannot be definitely excluded, immediate operation should be performed.

TREATMENT

Some confusion apparently exists in the mind of the medical profession as to what

is meant by conservative treatment. This definitely does not apply to the treatment of acute appendicitis. There is only one treatment for acute appendicitis and that is immediate operation. Any tendency to allow such patients to wait over in order to conform to regular operating schedules is to be condemned. In patients in whom the pathology has extended beyond the appendix and a localizing abscess is forming, or a general peritonitis exists, conservative treatment as advocated by the late A. J. Ochsner should be instituted. In these instances where the patient is not seen for many hours or days after perforation has occurred, temporizing measures, such as a nasal suction for decompression of the intestinal tract, morphine for the maintenance of intestinal tone and relief of restlessness, intravenous drips to maintain the fluid requirements of the body, and a heat tent to reduce distention, offer the patient the best chances for recovery. The mortality in these patients is necessarily high, ranging from 7 per cent in the cases which localize to 60 per cent in those with diffuse peritonitis. When a definite abscess has formed, and resolution is apparently not going to take place, as evidenced by the local signs and septic fever, then drainage of the abscess is to be carried out. Unless the appendix is readily accessible, its removal is left for a subsequent date, some months later. In those patients in whom perforation is known to have occurred only a few hours previously and there are no signs of localization, and in those patients where one cannot be certain of the status of the appendix, i. e., whether or not rupture has occurred, immediate operation should be performed.

SUMMARY

Purgatives should never be given the patient with abdominal pain. Every effort should be directed towards making an immediate differential diagnosis, and if the diagnosis of acute appendicitis cannot definitely be ruled out, immediate exploratory operation should be done.

AGE FACTORS IN ACUTE APPENDICITIS

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It is now a generally accepted fact that acute appendicitis, although it is relatively infrequent in young children and in adults over forty years of age, offers many difficult problems in these age groups and is attended with a correspondingly high mortality. This is particularly true in our own community, perhaps because of the high proportions of negro residents, as has been forcefully brought to our attention in a series of communications by Maes and Boyce[1-5] dealing with acute appendicitis at the New Orleans Charity Hospital. These studies are well worth bearing in mind, and I shall refer to them frequently in this brief discussion.

The figures from Charity Hospital bear out the statements I have made concerning both the incidence and the mortality of acute appendicitis at the extremes of life. In 2,715 cases of this disease, only 513, less than 20 per cent of the total number, occurred below the age of twelve, and only 270, 10 per cent, occurred in individuals over forty years of age. On the other hand, the two age groups which furnished less than 30 per cent of the total incidence of the disease furnished more than 55 per cent of the mortality.

ANATOMIC VARIATIONS IN THE STRUCTURE OF THE APPENDIX

Certain anatomic variations in the appendix during the extremes of life may play a part in the low incidence and great severity of the disease in these age groups. During the first two years of life acute appendicitis is distinctly rare, perhaps because the quantity of lymphatic tissue in the appendix is small. Abt[6] was able to collect from the literature in 1920 only 80 cases in children under this age, but the ravages of the disease are well illustrated by the 50 per cent mortality which he re-

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ported. From the second year onward there is a gradual increase in the quantity of lymphoid tissue in the appendix, and a parallel increase in the incidence of acute infection, the maximum being reached at about the twentieth year. After the fortieth year there is a definite decrease in the quantity of lymphatic tissue in the appendix, and a concurrent decline is observed in the incidence of the acute disease.

An acute infection which begins in the mucosa or submucosa of a child's appendix soon invades and spreads rapidly through the lymphatic tissue. The thin-walled organ offers little resistance, and the peritoneal coat is promptly invaded. Surgical intervention before, or even at, this point is usually rewarded with a dramatic cure, but beyond this point the entire picture changes to that of general peritonitis, and the outcome of surgery is doubtful. The abdomen of the infant, with its short and poorly developed omentum, is ill prepared to keep the disease localized, and perforation of the appendix at this age usually means general peritonitis in a subject whose resistance to infection is frankly not good.

In the elderly individual the anatomic variations in the appendix take the form of a replacement of lymphatic tissue by fibrous tissue. Also observed are scarring from past infections, partial or even complete obliteration of the lumen, and vascular changes in the terminal blood vessels. Obstruction to the blood supply is easily produced, and is followed by the gangrene so frequently and so typically seen in this age group. In the child, gangrene is usually spotty and localized, but in the adult it is usually of the massive variety, widespread and involving the entire organ. These observations support the belief that in later life appendiceal disease involves the vascular system more often than the lymphatic system, a view which is also supported by the frequency of thrombophlebitis and pylephlebitis in association with acute appendicitis after the age of forty years.

DIAGNOSTIC DIFFICULTIES AT THE EXTREMES OF LIFE

From what has been said it is easy to see that early diagnosis is imperative if patients with acute appendicitis at the extremes of life are to be benefited by surgery. On the other hand, the obstacles encountered in arriving at a diagnosis are often almost insurmountable. In infants, for instance, one must rely entirely upon the history given by the mother, and it often proves misleading. It is a difficult task to determine whether the rigidity present is caused by pathologic changes within the abdomen, by some common ailment of childhood with abdominal symptoms, or merely by the baby's crying.

Too often physicians are satisfied with the recognition of one variety of pathology and neglect to carry the examination to completion. Acute appendicitis can and does occur in the presence of other diseases. Children very frequently show some evidence of throat infection, and the occurrence of acute appendicitis during and shortly after epidemics of upper respiratory infections has led to repeated discussion of its possible epidemiologic character.

Again, diarrhea and urinary symptoms and signs are of common occurrence in children because of the frequent location of the appendix in the pelvis. In such cases rectal examination, although it is not always satisfactory, may be of inestimable value.

After the second year, when appendicitis is more frequent, the patient develops the power of speech and becomes more cooperative and less fearful. The disease gradually assumes characteristics which are readily recognized, and when the child is able to say, "It hurts right here," we may disregard much of the mother's story and be on our way to an accurate diagnosis.

Although appendicitis under the age of six years is relatively infrequent, it is still the most common surgical abdominal disease which is encountered. After the fortieth year, however, other lesions may be present to complicate the diagnosis. One would think that the problem would become simpler when dealing with individuals at this age, but this, unfortunately, is not true. The fact that the individual has the power of speech may hinder rather than facilitate early diagnosis, especially in the elderly

male patient who does not "believe in operations" but who really suspects that he may need surgery. His self-deception may be encouraged by the disappearance of pain, as often happens after the onset of gangrene. The female patient is likely to be more cooperative, and more likely to give an accurate picture of what has occurred before the physician arrived. Her story is usually helpful, but an obese abdominal wall may introduce trouble by making physical examination unsatisfactory. The scars of other operations may confuse the picture, if the true story is not known, by introducing the possibility of partial intestinal obstruction caused by adhesions, and the institution of decompression of the intestine may cause costly delays. Pain, a cardinal symptom in other age groups, is often a minor complaint in both sexes late in life, because sensations tend to be dulled in elderly individuals.

Individual resistance always plays an important role at this time. Vascular changes throughout the body, diabetes, and chronic pathologic changes in the liver, kidney and heart, make the elderly patient an easy prey for acute infection, and by their very presence may cloud its symptoms and signs, so that recognition is delayed. The poor resistance to acute infection and the changes in the vital organs must share the responsibility for keeping the mortality in this age group higher than in any other.

Colp[7] considers a chill which occurs before the third day of illness of no particular significance, but regards as important chills which occur after this time. This point of view is entirely reasonable in the young adult, but not in the adult advanced in years, when chills in association with acute appendicitis are always serious. If the vascular origin of this disease in later life is true, then we may expect to see, as we do see, early chills, which usually signify thrombophlebitis.

To other diagnostic difficulties must be added those introduced by purgation. The administration of purgatives by the well-meaning mother, or, unfortunately, by the physician who uses the telephone to avoid visiting the patient, is an all too common occurrence. The elderly patient, for some reason, has an inordinate faith in purgation. Repetition of the purgation is also very common, and it increases the necessity for a prompt diagnosis and prompt treatment. In the child or in the elderly person who has been treated by purgation, the mere suspicion that acute appendicitis may be present makes prompt surgical intervention mandatory.

SUMMARY

In this brief paper only a few of the important considerations of acute appendicitis at the extremes of life have been discussed. They should be sufficient, however, to remind the physician again of the seriousness of this disease in early childhood and late adult life, and to stress again the urgency of early diagnosis and an immediate resort to surgery.

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MISTAKES COMMONLY MADE IN THE TREATMENT OF SYPHILIS OF THE NERVOUS SYSTEM*

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NEW ORLEANS

Since I have selected the title of this presentation, my own experience must, to a large degree, be called upon; however, I

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have drawn on current medical writings for classical descriptions and charts.†

It frequently happens, in fact the exception is rare, that a physician, finding his patient presenting unmistakable symptoms indicating involvement of the nervous system by the *Spirochaeta pallida* or obtaining similar evidence from the spinal fluid examination, is content to call all these conditions cerebrospinal syphilis and to treat them all in the same manner. It is this practice that proves one of the most grievous mistakes, for treatment that will cure one patient suffering from syphilis of the nervous system will not help and may even injure another patient with a different type of involvement of the nervous system. Treatment of early syphilis, when one is dealing with a chancre or with the disease in the secondary state, can be made to follow a scheme or method which today is fulfilled by the "continuous treatment plan" which recommends for the first year not less than twenty, preferably thirty, intravenous injections of old salvarsan in conjunction with forty-five injections of bismuth or mercury.

Treatment of syphilis of the nervous system can not be so simplified, though unfortunately this is what is so often attempted. Under such a method the patient fails to improve, may even grow much worse, and the physician becomes discouraged because of this and may lose all interest in the treatment of his patient. To get the best results from treatment where syphilis has involved the nervous system it is necessary to treat each patient individually, the method and the drugs or procedures employed depending upon the particular structures involved. There is no other basis for modern treatment.

†Charts in this paper reproduced with the permission of Dr. John H. Stokes and the W. B. Saunders Company, Philadelphia.

CLASSIFICATION

From a clinical point of view, and for purposes of treatment, the following classification is offered:

1. Meningo-vascular syphilis or syphilitic meningitis (early and late, symptomatic and asymptomatic).
2. Endarteritis (hemiplegia, arteriosclerosis, aneurysm.
3. Gumma (solitary tumor).
4. Parenchymatous syphilis.
   a. General paralysis, paresis sine paresi.
   b. Tabes dorsalis (parenchymatous involvement of the spinal cord).
   c. Tabo-paresis (combination of tabes and general paresis).
5. Optic atrophy, primary or secondary.
6. Myelitic disturbances (myelomalacia).

SYMPTOMATOLOGY OF BASILAR MENINGITIS—(Stokes)

Headache: Usually severe; pain deep in the eyes; sensitive to percussion over the brows.

Dizziness and Vomiting: Not unusual and not distinctive.

Stupor or Excitement: Elaborate psychotic disturbance rare and usually due to combination with other lesions.

Fever: Not unusual, but apt to be atypical. Occasionally but rarely high, rarely subnormal temperature.

Optic Neuritis and Papilledema: Most important nerve lesion, more frequent than in any other form of brain syphilis. Examination of both fundus and fields essential.

Ocular Muscle Palsies: Partial oculomotor (N. III) palsies the commonest type, ptosis, diplopia, pupillary disturbance, strabismus. Total third nerve paralysis (accommodation also) usually late. Ptosis the commonest symptom. Combined pupillary and accommodational disturbance suggests tabes or paresis (Nonne).

Other Cranial Nerve Lesions: The combination of second and third nerve lesions with those of other cranial nerves suggests cerebral syphilis as against tabes dorsalis.

Polyuria, Polydipsia, Pituitary Syndromes: Relatively rare; may take the form of diabetes insipidus, infantilism, dystrophia adiposogenitalis, etc.

Symptoms of Bulbar Lesions and lesions of the ninth, tenth, eleventh, and twelfth cranial nerves; rare. Glycosuria, central deafness, trapezius paralysis, tongue paralyses, etc.

In meningo-vascular syphilis we find the involved leptomeninges reacting to the invasion of the *Spirochaeta pallida* by a proliferation of lymphocytes and a lesser number of plasma cells with occasional leukocyte and endothelial cells. This exudate may be rather scanty or may be thick and jelly-like, supporting numerous miliary gummatous lesions. Almost any portion of the meninges may be involved, but basilar meningitis is most frequent and the symptoms are characteristic.

Treatment of acute basilar meningitis presents to the practitioner a major emergency. The patient may be suffering most severe headache with paralysis of several cranial nerves, the neck may be stiff, and Kernig reaction positive. The spinal fluid will show 100-1500 cells, markedly increased globulin, strongly positive Wassermann reaction, and in the colloidal gold test, usually a decided reaction in the mid-zone.

It is in a situation like this that good judgment is essential if the patient is to receive the most benefit from therapeutic efforts. Should a patient with acute meningitis be given salvarsan or neosalvarsan he is almost sure to grow worse or to develop therapeutic shock or Herxheimer reaction and may die. Situations like this require not the arsenicals but preferably mercury by inunctions, 16 grams of the 50 per cent mercuric ointment should be used. This heroic dose of mercury may be kept up for two or three days and then reduced to daily doses of 8 grams. After 10 days of mercury inunctions, salvarsan may be added and the mercury reduced still further. It is my opinion that syphilitic meningitis is a very clear, even imperative, indication for large doses of mercury by inunctions, and nothing else will give as good results. Sodium iodide in fairly large doses is recommended though no reliance is to be placed on this drug; it may be of some help, but mercury is the sheet anchor in therapy.

In endarteritis we are dealing with a lesion of an artery, great or small, from the large vessels forming the circle of Willis to the finer terminal vessels. In a sense this is not a part of syphilis of the nervous system but is primarily syphilis of the vascular apparatus; the changes in the central nervous system are secondary and result from deprivation of the blood supply. The spirochetes affect the coats of the artery and usually produce thrombosis of the vessel and death to the part of the brain dependent upon this vessel.

CHARACTERISTICS OF PARALYTIC ACCIDENTS IN VASCULAR NEUROSYPHILIS—(Stokes)

Paralyses may be partial or total, mono-, hemi-, or triplegias.
Onset may be sudden, but is often gradual with gradual recovery.
Gradual ascending or descending paralysis may occur.
May be no signs of insult such as loss of consciousness, convulsions, etc., even in sudden and total paralyses.
Lesion may be central, not cortical.
Triplegias are uncommon; both extremities of one side, one of the other.
One paralysis may follow another or convulsions may affect a previously paralyzed limb.
Marked tendency to recovery is the rule; rarely fatal. The commonness of thrombosis as contrasted with arteriosclerotic hemorrhage is the explanation.
Aphasia is common often with a monoplegia or hemiplegia or a seventh nerve paralysis. Usually motor in type and transient.
Bulbar symptoms may develop from thrombosis of the frequently involved basilar artery; ocular paralyses, disturbance of speech and swallowing reflexes, with crossed paralysis of the extremities.
No sensory disturbance in most cases.
Pupillary changes usually absent (uncomplicated cases).
Occasional central hemianopsia.

SEROLOGY OF VASCULAR NEUROSYPHILIS—(Stokes)

Blood Wassermann reaction: Usually positive, but often negative.
Spinal fluid Wassermann reaction: Positive in about 50 per cent of the cases.
Globulin: Slightly increased or normal.
Cell count: Slightly increased or normal.
Colloidal test: Negative or not distinctive.

DIFFERENTIAL CONSIDERATIONS IN VASCULAR NEUROSYPHILIS—(Stokes)

Patient too young for arteriosclerosis.
Syphilitic history may be obtainable (or may not).
External collateral signs of syphilis are likely to be lacking.
The blood Wassermann reaction may be positive (or may not).
The spinal fluid examination may be positive (or may not).
The therapeutic test may be meaningless (spontaneous recovery).
The diagnosis may have to be made by exclusion:
- No gross arteriosclerotic signs (inspection, palpation, blood-pressure).
- No demonstrable renal insufficiency (uremic hemiplegia or convulsions). Urine and blood urea normal.
- No cardiac lesion to explain a thrombosis or embolus.
- No acute infection.
- No disease causing vascular injury: Leukemia, pernicious anemia, diabetes, alcoholism, metallic poisoning (arsphenamin, etc.).

Among the possibilities consider: Arteriosclerosis, idiopathic apoplexy in youth; brain tumor; multiple sclerosis; uremia; hysteria; migraine with hemiparesis; general paralysis; solitary tubercle of the pons; heart disease in young syphilitic patients.

TREATMENT

Treatment of vascular neurosyphilis depends upon the time that the patient is first seen. If paralysis has existed for months there is no need of energetic treatment. However, if there is only partial paralysis much depends upon heroic measures and again mercuric ointment in very large doses should be employed, with or without sodium iodide intravenously. Paralysis, mono or hemiplegia, occurring in a young person whose blood pressure is not high and who does not present choked discs and other evidence of cerebral tumor, should be treated at once for vascular syphilis. Time is very precious and treatment should not be delayed an hour. Inunctions of mercury should be given at about the time of the spinal puncture and before the fluid can be reported. In endarteritis the spinal fluid will be negative in about 50 per cent of the cases. After treatment with mercury has arrested the thrombotic process or done what was possible toward that end, regular treatment can be commenced with salvarsan and the heavy metals and continued for two or three years.

Solitary gummata from the size of a marble to a large lemon are rather rare and produce symptoms of a tumor which in fact they are. One should never hazard the diagnosis of a gumma before operation and it is often the pathologist who speaks with finality. There is no medicinal treatment for gumma (solitary) of the brain; only surgery will give relief. It is a well established observation that the symptoms and signs of most tumors of the brain seem to improve temporarily under antisyphilitic treatment if the patient is in bed; therefore, one must not be misled by this apparent improvement.

General paralysis or paresis is a most serious disease; it is responsible for about one-eighth of all admissions to state institutions for mental diseases. About 5 per cent of those who contract syphilis and are not adequately treated will develop general paresis. In this disorder the gray matter of

SYMPTOMATOLOGY OF PARETIC NEUROSYPHILIS—(Stokes)

Amnesia: Especially for recent events.
Consciousness clouded; intake impaired, fatiguability increased, hallucinosis rare.
Judgment impaired; oversuggestibility, fantastic delusions, grandiose, paranoid; insight into illness, slight or nil.
Quick-shifting Emotions.
Irritability or Hebetude.
Character Change.
Conduct Slump: Violent rages, sexual escapades and excesses.
Nervous Disorders: Headache, visual disturbance, tremor, ataxia.
Speech Disorders: Dysarthria, aphasia, vocal change.
Writing Disorders: Tremor, omission of letters and words.
Pupillary Changes: Argyll Robertson pupils, pupillary irregularities, transient anisocoria. Pupillary changes may occasionally be slight.
Reflex Changes: Exaggeration most common (taboparesis excluded).
Seizures: Epileptiform, hemiplegic, aphasic, most typically transient and repeated.
Facies: Flattened nasolabial fold. Relaxation, mental "let down," tremulousness, vacuity.
Serologic Picture: Strongly positive blood and spinal fluid Wassermann, positive globulin, cell count under 100, repeated first zone colloidal test.
Paralyses and Contractures (late).

the cerebrum is involved. Due to the activity of the spirochetes or their toxins the cells are destroyed or affected in such a way they are not able to function. The brain becomes smaller, convolutions are less well marked, and, as a consequence, progressive mental deterioration is the principal clinical picture.

Treatment of general paresis has been revolutionalized during the past fifteen or twenty years. Prior to that time all patients with paresis died within three years after admission to a hospital, and those who were treated with the then available antisyphilitic agents (salvarsan and mercury) died sooner. Consequently, the therapeutic outlook for paretics became most pessimistic, for the new and much lauded salvarsan did not help these patients but actually made them worse, especially when administered in large doses. The spectacular change in the prognosis of this disease was brought about by Wagner von Jauregg's introduction of malarial treatment and the development of other methods of producing hyperpyrexia within the patient. Of almost equal significance to the fever treatment has been the addition of tryparsamide to our therapeutic armamentarium.

If treatment of paresis is carried out along general lines with various arsenicals, bismuth and mercury and iodides, only discouragement and disaster will follow such a mistaken procedure. Of all forms of syphilis of the nervous system general paresis is the one that requires particular treatment with measures not generally used for any of the other types of involvement. In capable hands modern treatment of paresis with tryparsamide and malarial treatment will lead to restoration or to marked improvement in 65 per cent of the patients treated. The spinal fluid, even in patients showing most satisfactory response to treatment, may persist in being abnormal but treatment must not be too energetic after marked improvement in the patient's general condition has taken place. Just when treatment should be discontinued can not now be determined, but one should be warned against continuing too active treatment.

The organism of syphilis attacking the parenchyma of the spinal cord, especially the dorsal tracts, produces the best known neurosyphilitic lesion, tabes dorsalis. This disorder is fairly readily diagnosed once the condition is considered, though some of the less frequent symptoms, as gastric crises, frequently lead the medical man and his surgical confrere into much embarrassment and grief.

IMPORTANT SYMPTOMS AND SIGNS OF TABES DORSALIS—(Stokes)

Symptoms	*Per cent*	*Signs*	*Per cent*
Lightning pains	73-88	Argyll Robertson pupils	80
Visual symptoms	44	Reduced or absent lower cord reflexes	70-90
Difficulty in urination	43-68	Romberg sign	43-96
Trouble in starting		Sensory disturbance and dissociation	49-58
Dribbling afterward		Diminished pain	
Nocturnal frequency and "bed-wetting"		Diminished vibration sense (bone fork conduction)	
Paresthesias (numbness, prickling, etc.)	40-58	Diminished sense of motion and position	
Ataxia	37-87	"Cord" (atonic) bladder	43
Strabismus	12	Trophic changes	12-19
Diplopia	11	Charcot joints	
Girdle sense	10-31	Malum perforans	
Visceral crises (gastric, rectal, laryngeal)	10-22	Optic atrophy	6- 9
Loss of libido and potentia	6-25		
Failing vision	6		
Ptosis	5-23		
Vertigo	4-13		
Deafness	1- 4		

Combined from the statistics of Nuzum, Lucke, and Stokes and Shaffer, aggregating approximately 1,500 cases.

Treatment here, especially after the disease process has been brought under fair control and its activity abated, should be rather mild. It is a mistake to over-treat the tabetic, for often their resistance is low and over-enthusiastic treatment may do further damage. Seldom can one cause a complete restoration to normal; he should aim to arrest the condition and to secure 25 to 75 per cent improvement. After the spinal fluid has been normal for months or years, treatment should be largely supportive and symptomatic with only occasionally mild anti-syphilitic therapy.

Tabo-paresis indicates the presence in the same patient of tabes dorsalis and general paresis, representing parenchymatous involvement of the spinal cord and the brain. This is not a very unusual clinical picture. Treatment should be directed toward arresting the most destructive process which is the brain pathology. Therefore, the same measures that are employed in the modern treatment of paresis will give the best results.

Optic atrophy is a serious threat to the patient, and the practitioner will do well to request a consultation, for not infrequently he is blamed if the patient loses his sight. Real therapeutic aid is needed and should be sought through conference. I have had very good results in these patients by the use of the Swift-Ellis treatment. Where optic atrophy is present tryparsamide should be employed, if at all, most guardedly as this drug may itself hasten or produce atrophic changes in the optic nerve. Progressive optic atrophy is a serious condition and must be energetically combated.

Myelitic disturbances may be produced by spinal meningitis (an integral part of cerebrospinal meningitis), by involvement of the arteries of the cord, or by direct invasion of the spinal cord by the *Spirochaeta pallida*. These lesions are prone to produce the symptoms of a transverse lesion of the cord; that is, paralysis, motor and sensory, below the site of the lesion. Signs and symptoms of such a lesion call for very active treatment. It is here again that mercury inunctions can be depended upon to give the best results.

SUMMARY

An attempt has been made to point in-

directly, and at times directly, to mistakes often made in the treatment of syphilis of the nervous system. If we try to understand the principal pathology present in our patients and direct treatment with that pathology in mind, but not forgetting the patient as a whole, we may then expect satisfactory results.

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DISCUSSION

Dr. Edmund McC. Connely (New Orleans): When I looked over Dr. Holbrook's paper I had one serious fault to find: The situation that he brought up was beyond all argument, and he covered it to such an extent that he left very little for the discussor to say.

I hereby agree with him in regard to the situation. There isn't any question that we should realize fully, in all probability we do realize, that the different types of central nervous system syphilis must be handled differently if we are to get results. We should all remember that it is a natural tendency to drop into therapeutic habits and that we all naturally tend to standardize treatments to a great extent. I believe that the most important differentiation we have to make—of course there is no question about the treatment of the acute luetic—is to differentiate parenchymatous from other types of syphilis, not only because of the harm we can do by delaying treatment in the more acute phases, by wasting treatment, not giving treatment for the parenchymatous types, but because of the actual damage we can do. I remember 25 years ago, before fever therapy was introduced, to make a diagnosis of paresis was practically to pronounce death sentence, but with the advance of the fever therapy our hopes began to rise and with the advent of tryparsamide what was at one time a hopeless situation was very much improved. Tryparsamide and fever therapy have come to be so well known that we now have a situation that has some potential dangers. The tendency is to use it in many cases where it is not indicated, and the tendency is to take chances with it, especially with tryparsamide. There is not any question but that it can do serious damage especially to the optic nerve. Every patient who gets tryparsamide should have thorough examination of his eye fields, and no patient who shows any evidence of optic nerve irritation should use tryparsamide because of its tendency to irritate the optic nerve, and it can very well produce blindness. So it is always essential not only to make an initial examination but to check carefully the nerve throughout treatment with tryparsamide, and with this tryparsamide and fever therapy our paretics are very much more hopeful.

Dr. Louis Ochs (New Orleans): I would like to ask Dr. Holbrook about his preference for old salvarsan in general syphilis. I have never seen it used by any of the public health institutes or the Charity Hospital clinic. I may be mistaken, but I do not think the special clinic at Touro, of which Dr. Holbrook is director, uses it. I would like to know why he uses it.

Dr. A. A. Herold (Shreveport): I would like to ask Dr. Holbrook, in closing, to explain the specific danger of a patient with syphilitic meningitis or paresis in the central nervous system being put on the arsphenamines, such as tryparsamide, right away.

I would like to ask how often he uses spinal punctures for these cases and, also, a few years ago, he reported some results with Dr. Lanford in the use of sodcku organism for producing fever; does he still use it?

I do not want to anticipate him in answering Dr. Ochs' question, but I have felt for a long while that we do not get results with new salvarsan as it is too concentrated. Old arsphenamine is used in dilution and enters the tissues of the body in lower specific gravity; whereas neoarsphenamine is given concentrated in a 10 or 20 c.c. syringe. I have wanted for some time to make experiments with neo diluted to 200 c.c. and see if I would not get results. I have a patient with paresis who had been under treatment three years. I first saw him in convulsions. The man had only one eye, which complicated treatment. But I gave him rest treatment and then specific treatment. I am now giving him, about every three months, one course of neoarsphenamine and one of tryparsamide. His Wassermann still remains four plus, although he is clinically improved and feels well.

Dr. J. P. Sanders (Caspiana): I want to ask Dr. Holbrook if patients who have malaria constantly for two or three years are prevented from having central nervous system lues? In country practice we have very little of this type of lues and have a great deal of malaria. One observer in Central America noted that central nervous system syphilis is very seldom seen where malaria is epidemic. That is the experience I have had in my own practice.

How many of these patients whom we treat for syphilis, asymptomatic lues, do we expect to have central nervous system lues?

I want to emphasize what Dr. Holbrook said

about tryparsamide when optic atrophy has started. Is tryparsamide going to make it worse? I have been told to leave it off, and told to go on. I do not know what to do. In two or three patients where there has been early optic atrophy, I have given tryparsamide with no effect (seemingly) on the eye. Often when optic atrophy sets in the eye is going blind regardless of what is done.

In closing, I would like Dr. Holbrook to say something about personal resistance that these syphilitics have. I talked to a man today and we both agreed that a great many patients will get well of their syphilis without any treatment, some will get well with little treatment, and many will not get well with all the treatment we are going to give them.

Dr. C. S. Miller (Jackson): I agree with Dr. Holbrook that diagnosis of central nervous system lues should be made. My main purpose in speaking is to enter a plea for diagnosis of syphilis in that type where it can best be treated, and that is the asymptomatic stage. In early syphilis there is invasion of the central nervous system and a good percentage of these patients continue to have involvement of this system; the paresis we see twenty years later is the patient with asymptomatic syphilis who has continued since the primary and secondary stages. There is too much temerity on the part of physicians in getting spinal fluid punctures and trying to determine whether the patient has asymptomatic neurosyphilis. All patients who have had syphilis three years should have a spinal puncture when admitted for treatment. All patients placed under treatment with primary or secondary syphilis should have a spinal puncture after six months of treatment, in order to determine whether any one of these patients has asymptomatic neurosyphilis. I hope all physicians will determine whether or not they have a positive spinal puncture before treating or before discharging them.

Dr. C. S. Holbrook (In conclusion): I am going to start with the last gentleman first and thank him for mentioning the spinal puncture. I believe today that a physician lends himself to a malpractice suit if in the treatment of syphilis he does not examine the spinal fluid of his patient, or at least make a request. A man is so frequently told that he is all right after six or ten blood Wassermanns are negative, treatment is discontinued, and he forgets about the syphilis and marries. Ten to 15 years later, he develops meningo-vascular syphilis or paresis. I believe that a very strong case could be made against any physician who did not examine the spinal fluid during the period of treatment of the patient. Of course, the patient may refuse to have the spinal puncture done and in that case a note should be made on the office or hospital record that an effort was made to have the spinal fluid examination but it was declined. The treatment of syphilis of the nervous system is largely controlled and regulated by the spinal fluid and we get one spinal fluid every two to six months, certainly every year; and after the spinal fluid becomes negative, we still do an occasional spinal fluid examination.

True, a large proportion of persons with active syphilis will show mild changes in the spinal fluid; probably 60 to 79 per cent of cases will show increased cells or increased globulin. Occasionally the Wassermann may be positive, but if abnormal findings are present that does not mean the patient is going to develop active cerebrospinal syphilis, but means that the patient should be carefully watched. About 8 to 10 per cent of the peopie who develop syphilis will develop syphilis of the nervous system, and 5 per cent of patients with syphilis of the nervous system will develop paresis.

Dr. Sanders talked about the infrequency with which patients who have malaria have paresis. There has been some evidence to indicate that these patients do not so often develop paresis or even nervous system syphilis, but I do not think it has ever been well established.

In the cases of optic atrophy one sees, the question comes up, "What should the treatment be?" The patient is losing his sight, is going blind, and often we are unable to stop the process. It is decidedly hazardous to give tryparsamide in an advanced optic process, in a patient in whom the disease is progressive, because one is apt to get credit for producing blindness. There are those who believe that tryparsamide may be given to some of the cases where the process is not active, where there is just an old scar, but then it should be done gradually and under control. I believe the Swift-Ellis treatment of syphilis is best applied to these cases of advancing optic atrophy. When there is just some damage, I believe one can give tryparsamide, and if the patient takes the first 10 or 12 doses of tryparsamide successfully without eye damage he is apt to have no trouble with the following injections. If it is going to produce any harm, this usually occurs in the first series of treatment.

As to the resistance of patients to syphilis, Dr. Dyer used to teach that 25 per cent of people who get syphilis had enough resistance to get over it. I believe a good many people who have syphilis are never sick from it. I know one gentleman who had syphilis for 56 years and it did not bother him until recently. When he was 77 years of age he began to develop diplopia and showed a very high cell count and a positive spinal fluid. He had contracted the disease before he was married. He married, was president of a bank, sent a daughter through one university and a son through another, and his wife died of tuberculosis. He had been perfectly well these 56 years, and then when he was quite old, finally the balance between re-

sistance and activity of the spirochete went in favor of the spirochete.

Dr. Herold had a good many disturbing questions, one of which was the objection to giving tryparsamide in cases of meningitis. I referred especially to meningitis, not so much paresis but meningitis. There is tremendous exudate over the brain, a white jelly-like exudate, and anything that might light that up, that might exaggerate it, occurring within the skull where expansion can not take place, any activity of this already active process will create increased intracranial pressure and do damage. And we know salvarsan does cause therapeutic shock or Herxheimer reaction, an exaggeration of already existing symptoms. Therefore, it is wise to quiet this process with mercury or bismuth. That is true of any type of syphilis of the nervous system. It is well to get it under control before giving arsenicals.

I used sodoku fever successfully in a few cases. I tried it out and it works, but is not quite as good as malaria. It has one advantage; that is, it can be given to patients who can not be successfully inoculated with malaria because of resistance.

I should think in the case Dr. Herold mentioned he would seriously consider giving the patient malaria. He is already getting some salvarsan. We give our patients tertian malaria; we inject 2 c.c. of blood into the veins and 2 or 3 c.c. under the skin and hope the patient will contract malaria, and then we let him have 16 or 18 chills and high fever. I think that malaria produces the best results, and I would advise it in such a case as Dr. Herold reports.

Dr. Ochs asked a question about salvarsan. I am not in charge of the Touro Clinic at present, but when I was we did use old salvarsan. Stokes and Cannon state that salvarsan has greater therapeutic value though slightly more toxic. It is a little harder to give; with neosalvarsan you do not have to overcome the acidity, you do not have to add sodium hydroxide. Throughout the country, by men who have studied the value of it, salvarsan is held more efficacious than neosalvarsan, though for office practice the latter is most frequently used and is satisfactory.

COR PULMONALE*

B. R. HENINGER, M. D.†
NEW ORLEANS

The purpose of this contribution is to bring to the attention of the Louisiana State Medical Society a cardiac disorder which at the present time is so little known that with few exceptions it is actually not being recognized by physicians other than cardiologists. I refer to the condition known as cor pulmonale, which recent clinical and pathologic evidence has shown to be of rather frequent occurrence and which has probably in the past been mistaken for other clinical states.

Cor pulmonale, to use Brill's definition, is a cardiac disorder characterized by strain and failure of the right side of the heart and caused by cardiac-pulmonary lesions which disturb the lesser (pulmonary) circulation. According to White, the condition was not mentioned in the literature until 1933, when, in association with Brenner, he described it in a contribution entitled "Pathological and Clinical Aspects of the Pulmonary Circulation." In a personal search of the literature extending back to 1928 I can find no earlier article on the subject, and I am impressed also with the conspicuously few papers which have been published concerning it since it was recognized as a clinical entity.

Brill divides cor pulmonale into the primary and secondary varieties. The primary group is made up of cases in which right ventricular strain or failure occurs independently and apart from left ventricular failure, as the result of a sudden obstruction of the trunk or of the first branches of the pulmonary artery by embolism, or, more rarely, by rapid thrombosis. Subdivisions of this group include acute cor pulmonale, subacute cor pulmonale, and chronic cor pulmonale. The secondary group includes the cases in which cor pulmonale results from a pre-existing left ventricle failure. This variety is obviously more frequent than the primary variety, and its manifestations are therefore more generally recognized.

CASE REPORTS

The present contribution is limited to a report of typical cases of the primary variety of cor pulmonale, together with a discussion of the important clinical features of the condition.

*Read before the sixtieth annual meeting of the Louisiana State Medical Society, Alexandria, April 25, 1939.

†From the Department of Medicine of the School of Medicine of Louisiana State University, and from Touro Infirmary in New Orleans.

CASE NO. 1

A white male, 62 years of age, was admitted to Touro Infirmary on the service of Dr. F. L. Loria, with the complaints of weakness, anorexia, and loss of weight. A complete clinical and laboratory study, including roentgenographic examination, pointed to the diagnosis of gastric malignancy. The heart was apparently normal in size and function.

Exploratory laparotomy revealed a malignancy of the greater curvature of the stomach, with extensive involvement of the mesentery. Surgery was clearly impossible, and the abdomen was closed at once. Within 24 hours the patient became very cyanotic, his respirations became shallow, and his temperature rose steadily, reaching 102° F. just before death, at which time the pulse rate was 120 per minute. Repeated examinations of the

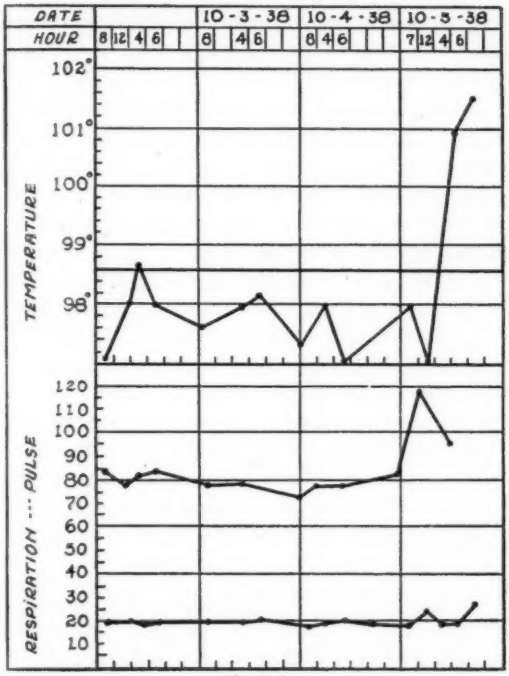

Chart 1

chest after operation revealed numerous scattered subcrepitant rales. Death finally occurred very suddenly, apparently from an acute cardiac condition, and autopsy revealed an extensive pulmonary thrombosis and an acute dilatation of the right heart (chart 1).

CASE NO. 2

A white male, 63 years of age, entered Touro Infirmary on the service of Dr. Emile Bloch for the performance of bilateral inguinal hernioplasty. He seemed an excellent surgical risk, and presented no apparent abnormalities on careful preoperative examination. Operation was done under local analgesia, and convalescence was without incident for the first week. Then, with lightning-like rapidity, the temperature and respiratory rate rose sharply, and the patient seemed extremely ill

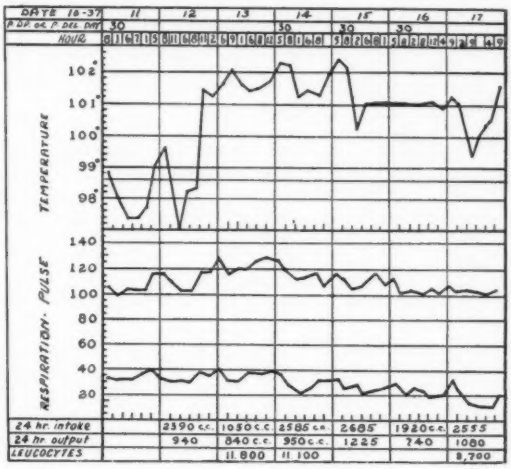

Chart 2

(chart 2). The leukocytic count was 11,800, and an electrocardiogram was suggestive of coronary occlusion. Numerous scattered rales were apparent over both lungs. Within five days, although no special form of therapy was employed, all clinical signs disappeared, the lungs were entirely clear on repeated examinations, and the leukocytic count fell within the normal range. Today, 18 months later, the patient is in excellent health and active in his affairs.

It should be noted that in both these cases the postoperative picture simulated acute coronary occlusion. The symptoms were ushered in abruptly with pronounced shock, pallor, falling blood pressure, and a weak pulse, followed by a rising temperature and a raised leukocytic count.

CASE NO. 3

A stockbroker, 67 years of age, had been confined to his home for a period of 10 months for a cardiac condition; he was allowed up for only four hours each day, and spent the rest of the time in bed. The background of the cardiac disability was arteriosclerosis, and he had marked emphysema and bronchiectasis, with an occasional attack of angina.

Suddenly, at the beginning of the eleventh month of his illness, the patient experienced a rise in temperature, an increased respiratory rate, marked cyanosis, and profuse bronchorrhea. Examination of the chest at this time revealed numerous subcrepitant rales (chart 3) over the right base,

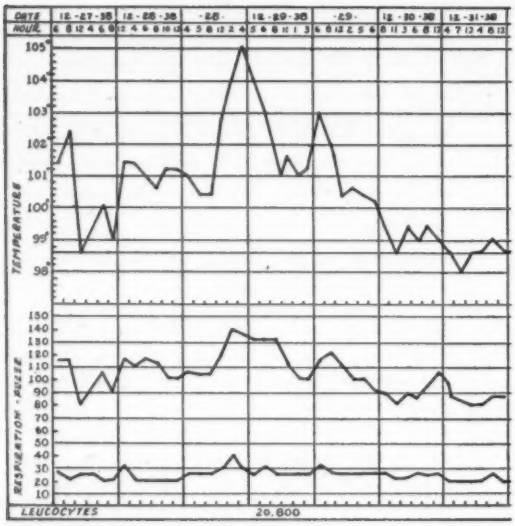

Chart 3

and a spreading pneumonia was feared. The blood pressure fell to 96/60, from the previous 145/70, and the leukocytic count was 20,800.

The clinical course for the next 48 hours definitely precluded the pneumonia which had been tentatively diagnosed. The temperature fell to normal, the leukocytic count decreased, the blood pressure rose to 135/70, and the patient seemed improved in every way. At the end of another 48 hours the lungs were entirely clear. Since pneumonia would never present such a picture, the obvious diagnosis was cor pulmonale resulting from pulmonary thrombosis. At this time a more detailed investigation of the patient's previous history revealed the fact that some six months before he had experienced a similar episode. Convalescence was much slower, however, than in the experience just described.

This case is typical of the variety of cor pulmonale likely to be encountered in bedridden cardiac subjects. Shock is not so profound as in the postoperative variety. The onset is associated with marked dyspnea, cyanosis, bronchorrhea, falling blood pressure, and rising pulse, temperature, and leukocytosis. Emphysema and pulmonary fibrosis are outstanding. The whole picture is suggestive of a rapidly spreading hypostatic pneumonia, but the diagnosis is not borne out, as the case just described makes clear, by the rapid clinical improvement which usually occurs.

DIAGNOSIS

The diagnosis of acute cor pulmonale still is often overlooked, just as the diagnosis of many other diseases is often overlooked, because the condition is not kept in mind. Diagnosis is not always easy, but it is usually possible to identify the disease if certain considerations, which make recognition more likely, are kept in mind.

Cor pulmonale tends to occur in patients of advanced years, or past middle age, rather than in young persons. The cases reported in this paper are entirely typical as regards age. Recent surgical procedures, the occurrence of a phlebitis, or the preexistence of some cardiac condition often furnish the clue to diagnosis. Indeed, the importance of a consideration of recent events prior to the onset of acute cor pulmonale cannot be overemphasized in the differential diagnosis.

The physical signs are variable, and there is no classical picture. On the other hand, cyanosis, accentuated P_2, a friction rub over the base of the heart, and gallop rhythm are usually prominent. The moisture in one or both lungs may sometimes suggest a massive edema. Leukocytosis is the rule.

Roentgenograms have not proved particularly helpful, but McGinn and White are of the opinion that electrocardiograms may furnish valuable information. That has not been my experience. In my own cases the electrocardiogram has often confused rather than assisted in the differentiation of cor pulmonale from acute coronary occlusion and dissecting aneurysm of the aorta.

DIFFERENTIAL DIAGNOSIS

The conditions most likely to be mistaken for acute cor pulmonale are rapidly spreading hypostatic pneumonia, acute coronary occlusion, pulmonary collapse, and dissecting aneurysm. Of these, only coronary thrombosis and spreading pneumonia are important enough and difficult enough to furnish special problems. The usual rapid subsidence of symptoms and signs in the cases which go on to recovery promptly differentiates the condition, as in case 3 reported herewith, from rapidly spreading pneumonia. The fall in both temperature and leukocytosis is particularly helpful. The comparatively rapid recovery from the initial shock, plus the type and mildness of

the pain, in many instances differentiates the condition almost immediately from acute coronary occlusion. Pulmonary collapse is associated with unmistakable signs of fixation of one side of the thorax, either from a bronchial obstruction or from spontaneous pneumothorax. The absence of any evidence of important heart disease before the attack, according to White, helps to rule out pulmonary edema of cardiac origin and cardiac asthma.

The signs and symptoms of acute cor pulmonale frequently subside promptly. On the other hand, many cases terminate fatally shortly after the onset, and the total mortality is in the neighborhood of 50 per cent. Some cases become prolonged into heart failure and pulmonary edema before death finally ensues.

TREATMENT

The treatment of acute cor pulmonale is chiefly aimed at the underlying etiologic condition, pulmonary embolism. Recent advances in surgery have made embolectomy a practical procedure in a few cases, but in the majority it does not seem rational, and the results likely to be attained are highly problematical.

My personal impression is that patients with cor pulmonale suffer from two possibilities: The first is that the condition may be mistaken for something else; the second is that if and when the correct diagnosis is made, there is a decided tendency toward over-treatment. Many patients, I am convinced, lose their lives because the physician tries to do too much for them. Absolute rest is the first consideration. Morphine and atropine should be administered by hypodermic, and digitalis in supportive doses may be of value. The free use of oxygen by nasal tube or tent is advised in all cases.

SUMMARY

1. Attention is called to cor pulmonale, a cardiac disorder characterized by strain and failure of the right side of the heart and caused by cardiopulmonary lesions which disturb the lesser (pulmonary) circulation.

2. Three typical cases are reported and discussed.

3. Points in diagnosis, with especial reference to differential diagnosis, are considered.

4. It is emphasized that the treatment of cor pulmonale is very simple, and the general tendency toward over-treatment is deprecated.

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DISCUSSION

Dr. J. E. Knighton, Sr. (Shreveport): Dr. Heninger has discussed the condition under consideration in such an elaborate manner that further amplification seems unnecessary.

It has occurred to me that one might be justified in raising the question as to whether the term "cor pulmonale" is really justified in designating the pathologic condition under consideration as a clinical entity.

Would it not be just as well to think of the picture in terms of the pathology that exists, that is, acute obstruction of the pulmonary circulation with secondary right cardiac dilatation and failure?

In the case reported in which autopsy was done, should the death certificate show "cor pulmonale" as the cause of death, or would it be more comprehensive to state that this patient died from pulmonary thrombosis with secondary right cardiac dilatation and failure?

This is not intended as an adverse criticism of Dr. Heninger's paper, the subject matter and discussion of which were most interesting.

Dr. A. L. Levin (New Orleans): I would like to ask Dr. Heninger to enlighten me on one or two points in his most interesting presentation. In the first two cases, "cor pulmonale" developed postoperatively. Was the blood studied carefully in those patients before the operation? I understood him to say they were anemic. Has the anemia, abnormal bleeding and coagulation, or vitamin deficiency anything to do with the development of "cor pulmonale"? According to your statement, those patients did not show any cardiac disorder preoperatively. The first case was one of malignancy; no doubt there was anemia and vitamin deficiency. It stands to reason that the heart muscle must have been weakened and in such an instance cardiac disease postoperatively is liable to develop. Has vitamin B deficiency any influence

on the development of "cor pulmonale" preoperatively or postoperatively?

Dr. B. R. Heninger (In conclusion): The first patient was an elderly man of 62 who had the malignancy for a variable length of time and said he had been treated by a gastroenterologist for quite some time. The exact red cell count, I am not prepared to tell you; I do not know.

We know that anemias, marked anemia, secondary or primary anemias, have caused a decreased amount of oxygenation in the myocardium, and naturally, produced anginal symptoms, but we cannot possibly, that is to me, understand why an anemia in this man could possibly have produced pulmonary thrombosis.

The second case, a postoperative case also, was that of a fine, healthy individual, who owned hotels in the North and in Florida. He, on his way to take over a hotel in Florida, decided to come South to have a hernioplasty done. As I described this case to you, if this man had any anemia at all it was not evident.

The subject of avitaminosis, so far as the heart is concerned, Weiss, Walker, and Wilkins have definitely shown that in pellagra and other conditions which cause a hydroscopic condition, and reduction of water there is enlargement of the heart. We know that the physiology is slightly different. While hypertrophy of the heart may result from arteriovenous fistula, there is a necessary increase in the amount of blood to feed this extra amount of muscle mass, but as far as avitaminosis is concerned, I cannot see how that would be a factor in the production of pulmonary artery disorders.

There was a very interesting article in reference to this, which came out of the Mayo Clinic a year and a half ago on the general subject of embolism, in which quite a number of cases were reported. Barnes, who reported these cases, showed that the majority of the cases of embolism were disturbances of the peripheral circulation following operations either in the pelvis, or lower abdomen, or extremities. He showed that these cases in which emboli took place within a period of two weeks usually resulted in a period five to six days following operation. They further showed that these numerous cases in which emboli were present, occurred in people, mostly normal subjects, who were extremely active. So they proceeded for some years to massage the lower extremities of all patients who had operations in the pelvis, lower abdomen, and extremities, with the result that the cases of emboli postoperatively were materially lessened, lessened to such a degree that it could not possibly be just coincidental.

Now, as to the subject of thrombosis of the pulmonary artery, which we are beginning to believe now makes up the larger number of these cases, we are at a loss to know exactly why they occur. Since this paper was assembled, which was some two months ago, I have seen and could add three more cases of pulmonary thrombosis which I personally observed at the autopsy table at Charity Hospital without looking for them; one case of sickle cell anemia in a young colored girl with congestive heart failure, and you may say possibly that congestive heart failure may have been the factor. That case is still being studied.

We now must admit that many factors and conditions may be responsible for cor pulmonale. It is not my intention to create new terminology, by calling your attention to cor pulmonale, but to relate its frequency and with an endeavor to make our members more conscious of cor pulmonale that the condition be recognized, and not be mistaken for other clinical states.

THE TREATMENT OF TRICHOMONAS VAGINALIS VAGINITIS WITH SODIUM PERBORATE

A PRELIMINARY REPORT OF 14 CASES*

EARL CONWAY SMITH, M. D.†
NEW ORLEANS

The experimental and clinical work which has been done to establish the identity of the causative organism of the condition commonly known as *Trichomonas vaginalis* vaginitis is almost bewildering. Even more bewildering are the various methods of therapy which have been suggested for its relief. Thus aldarsone is advised by Bland and Rakoff;[1] carbasone by Gospe[2] and by Drabkin;[3] floradex and devegan by Karnaky;[4] picric acid by Goodall[5] and by Mintz;[6] silver picrate by Winther[7], by Buxton and Shelanski;[8] quinine by Kahn;[9] acetarsone by Gellhorn,[10] by Bland and Rakoff,[1] and by Pattyson;[11] lactose and citric acid by Adair and Hesseltine;[12] and beta lactose by Roblee.[13]

Many of these methods, it will be noted, are merely modifications of other methods. The percentage of cures reported varies from 35 to 100 per cent. Very few of the authors report more than 90 per cent, and most of them report far less.

The method which I am presenting herewith for the treatment of vaginitis due to

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trichomoniasis has been extremely satisfactory in the 14 patients in whom I have used it. This is a small series, I am aware, but I am making this preliminary report in the hope that the plan will be tried out by others. It is being used at present in all cases of this variety of vaginitis which are admitted to the services of the Louisiana State University School of Medicine in Charity Hospital at New Orleans.

The plan of treatment is based on the use of sodium perborate, in combination with certain very simple instructions and prohibitions. I might say at this point that I am familiar with the brilliant report of Hibbert and Falls,[14] who demonstrated to their own satisfaction the relationship between *Streptococcus subacidus* of Holman and vaginal trichomonads. It has not, however, influenced my plan of treatment. I have also purposely neglected such matters as the pH concentration of the vaginal secretion and the restoration of a normal vaginal flora. These, I believe, can safely be ignored, for normal conditions will be restored when once the offending organisms are eradicated, precisely as conditions return to normal after infection of the mouth or rectum. Elaborate laboratory studies are thus avoided, and the plan of treatment is greatly simplified.

Diagnosis has presented no difficulty. Trichomonads are easily identified if a few drops of secretion taken from different locations in the vagina are placed on a glass slide, diluted with warm normal saline solution, and examined at once, under a microscope. The difficulty in *Trichomonas vaginalis* vaginitis arises in treatment, and I have no doubt that before I adopted the present plan I lost more than one patient because of a natural unwillingness to continue indefinitely a plan of therapy which seemed to be producing no results.

PLAN OF THERAPY

In 1933, after an unsatisfactory experience with several chemicals, I found that sodium perborate, when used according to a definite plan, gave excellent results. The chief points of management, after the diagnosis is made, are as follows:

1. The patient is examined carefully, to determine local conditions and to detect foci of infection in the bladder, cervix, Skene's and Bartholin's glands, and the rectum, as well as in the vagina.

2. The vaginal secretions are tested with litmus paper. The reaction of the vaginal secretion must be mildly acid before treatment is begun. If the reaction is alkaline, it is best to give a douche of lactic acid solution (U. S. P., one dram to one quart of water) before inserting the capsule of sodium perborate.

Fig. 1
Showing method of inserting capsule into vagina.

3. The vagina is gently swabbed with a cotton pledget to remove secretions, this step being omitted if it proves too painful.

4. One capsule (#12 veterinary), containing 1 gram of sodium perborate, is inserted deep into the posterior vaginal fornix with an instrument or with the rubber-gloved fingers. The capsule may be lubricated with K-Y jelly to facilitate its entrance. Thereafter the capsule is inserted by the patient herself early in the morning.

5. A vaginal douche of sodium perborate solution (15 grams of sodium perborate to one quart of luke-warm water) is taken at bedtime, slowly, in the reclining position.

6. This procedure is followed for 10 days after the first negative vaginal smear is ob-

tained. The entire course of treatment usually covers a period of 12 to 15 days.

7. Vaginal smears are examined immediately after the next three menstrual periods. If trichomonads are not detected in these smears, the patient is considered cured.

8. If severe burning in the vagina follows treatment, the patient is directed to take a douche, as prescribed, at once, and to return to the office. In such cases the dosage of sodium perborate is probably too strong and must be decreased.

The special instructions which are given to the patient to be carried out during treatment include the following:

1. Intercourse is forbidden.

2. Restriction of activity is advised.

3. Shower baths are to be used in preference to tub baths.

4. Drugs and douches, except as directed, are forbidden.

5. Douche apparatus and bath towels must be sterilized before use.

6. Toilet seats must be washed daily.

7. After a bowel movement, cleansing must be in the direction of the sacrum and away from the vagina.

8. Proper care of the hands is essential to avoid mouth to vagina infection.

The 14 cases which comprise this series treated by sodium perborate include 12 nonsurgical gynecologic cases, one obstetric case, (three months postpartum) and one surgical gynecologic case (two months postoperative). The average duration of treatment was 12 days. The single recurrence was promptly cured by a resumption of treatment. This patient lived out of the city and treatment was not entirely satisfactory because close observation was not possible. When the recurrence was noted, she was requested to remain in town; then, without variation of the plan of treatment, a cure was promptly effected.

CASE REPORT

A detailed case report at this point will illustrate both the effectiveness of the sodium perborate method and the ineffectiveness of other methods of treatment:

Mrs. A. W. (Case #14), aged 31 years, was first seen December 4, 1936, at which time the diagnosis of *Trichomonas vaginalis* vaginitis was made. After the secretions had been removed with cotton pledgets, silver picrate powder (one vial) was introduced into the vagina with a special vaginal insufflator. The patient was instructed to take a douche the following morning composed of three tablespoonsful of vinegar to one-half gallon of luke-warm water. For the next three days a silver picrate suppository was inserted into the vagina at bedtime and a vinegar douche taken the following morning.

Office treatment was repeated December 7 and December 9, and instructions were given to continue the suppositories and douches at home. Examination on each of the office visits revealed as many trichomonads in the vaginal secretion as on the first visit.

December 24, when the patient seemed restless under her lack of improvement, three floraquin tablets were inserted into the vagina and the patient was instructed to insert two tablets t. i. d. at home, and to omit douches. This treatment was continued until January 6, 1937; examination on each office visit revealed many trichomonads in the vaginal secretion.

January 6 to January 20 silver picrate insufflations and suppositories were resumed, again without improvement. January 20, another form of treatment was used: One anayodin suppository was inserted into the vagina, and the patient was directed to take a douche of vinegar solution (three tablespoonfuls to one-half gallon of luke-warm water) the next morning. This treatment was used continuously until February 22, 1937. During this whole period repeated examinations of the rectal secretion and of the urine were constantly negative for trichomonads. The patient was also following instructions as to restricted activity, prohibition of intercourse, care of the toilet seat, and similar matters.

February 22 three devegan tablets were inserted in the vagina and the patient was instructed to insert one daily. On her return to the office March 8, trichomonads were still present in the vaginal smears.

On this date sodium perborate was used, according to the method described, and the patient was instructed to continue the treatment at home, taking a sodium perborate douche each night and inserting a sodium perborate capsule into the vagina each morning. On her return two days later the vaginal smears for the first time were negative for trichomonads. She returned to the office every second day for three visits, and on each of these occasions the smears were negative. She was discharged March 18. Examination after each of the next three menstrual periods was negative for trichomonads, and she has remained clinically well to date, some 16 months after she was discharged as cured.

RESULTS OF TREATMENT

Following the use of sodium perborate, the burning and irritation of which the patient complains will disappear within 24 hours. An almost equally prompt improvement takes place in the discharge. It ceases to be watery, malodorous and creamy in color, and becomes somewhat chalky in consistency and practically without odor, although it remains profuse. Normal vaginal secretions will be observed within two to four days after a cure has been obtained.

The microscopic picture also changes promptly after the sodium perborate treatment is begun. The predominance of leukocytes, trichomonads, epithelial cells and bacteria disappears and is replaced by a predominance of adult epithelial cells, interspersed with dead trichomonads, an occasional pus cell and few bacteria. By the fourth or fifth day of treatment it is difficult to demonstrate even a dead trichomonad.

Vaginal examination reveals a change in the original findings. Examination at first is difficult because of extreme local tenderness, and the mucosa appears stippled and hemorrhagic. Shortly after treatment is begun there is a noticeable diminution of tenderness and the mucosa appears hyperemic. The hyperemia disappears when local treatment is discontinued and three to five days later the vaginal mucosa seems entirely normal.

Sodium perborate, which is a powerful oxidizing agent, reacts with the lactic acid of the vaginal secretion to form sodium lactate, boric acid, and hydrogen peroxide. The chalky appearance of the subsequent vaginal discharge is due to the precipitation of sodium lactate and boric acid. The good effects secured are due to the combined oxidizing action of sodium perborate and hydrogen peroxide, plus the antiseptic value of boric acid.

In the usual case the dosage mentioned, one gram of sodium perborate in a #12 veterinary gelatin capsule, combined with a douching solution of 15 grams to a quart of lukewarm water, is entirely satisfactory. The usual course of treatment requires the use of 14 capsules of sodium perborate and 8 ounces of sodium perborate in bulk.

In very severe cases the patient may complain of burning due to the chemical. If this happens, the dose in the capsule should be reduced to 0.5 gram. Almost immediate relief is secured by the taking of a douche of the drug in the usual solution or the use of a douche of warm water or of sodium bicarbonate solution. In the first case treated by this method the patient sustained a superficial burn of the mucosa because the sodium perborate was used in too large a dose. The burn healed promptly and cure was effected with equal promptness, but it is evident that caution should be exercised when, as is occasionally necessary, doses larger than 1.0 gram are used.

This method of treatment is being continued in appropriate cases. I am particularly interested in studying its effect in urethral, bladder and rectal infections, in pregnancy, and in negro patients.

SUMMARY AND CONCLUSIONS

1. The very fact that so many plans of treatment for *Trichomonas vaginalis* vaginitis exist is an indication that no method is entirely satisfactory.

2. A series of 14 cases is presented in all of which cure was effected promptly by the use of sodium perborate in capsules and douches. One of these cases is described in detail.

3. The method is simple, prompt, harmless, and economical. One advantage is that it can be applied, for the most part, by the patient herself.

4. Although this is merely a preliminary report, the good results suggest that the method is perhaps the most effective presently available.

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DISCUSSION

Dr. E. L. Zander (New Orleans): Dr. Smith deserves a lot of credit for the experimental work he has done in this particular field. Donne, in 1836, was the first one to do any work of this type on this particular organism and described it. It shows that it has been a long time since anything has been done in this field. Scanloni and Kolliker and Bland wrote articles on this organism but the treatment is most important.

Several men have brought out the importance of trichomonas infection in connection with gynecologic and obstetric conditions. Greenhill showed that 36 per cent of cases he had in his clinic showed this infestation.

The treatment started by Dr. Lee in 1920 consisted of mopping out the vagina with soap and water and then with general antiseptic cleaning out the vagina with bichloride of mercury, after which sodium bicarbonate douches were used. This treatment did not meet the results expected and Gellhorn suggested dry treatment.

Since then treatment has varied and some men have modified the various treatments. Picric acid suppositories were used. Silver picrate douches and silver picrate suppositories have been used by me with good results.

Since speaking with Dr. Smith, I have used the method he described in several patients and have had splendid results.

Dr. Earl C. Smith (In conclusion): I have one case report that I would like briefly to tell you about. It was a patient who was two months postpartum and I tried everything, from picric acid on down, trying to satisfy myself as to the real value of some of the drugs on the market today. Each time I prescribed an individual drug, it was accurately recorded and I followed specific directions. In three instances I wrote to certain pharmaceutical houses which had put up these drugs asking them their advice on how to cure that particular patient. I had examined her so thoroughly I was convinced definitely that the infection was localized in the vagina. Examination of her husband was negative.

After using these drugs for four or five months, I had exhausted the patient's patience and mine too. Then I resorted to the use of sodium perborate. On the third day of treatment with sodium perborate, I obtained a negative smear for the first time in five months. The patient was discharged in ten days.

The other drugs are of great value and many reports that I will receive later on probably will condemn the use of sodium perborate. I will welcome any reports given, however, as, so far, it has proved satisfactory.

ENDOMETRIAL CHANGES AND THEIR RELATION TO OVARIAN DYSFUNCTION*

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NEW ORLEANS

Within recent years it has become increasingly important to the clinician to know the significance of abnormal endometrial changes and their relation to ovarian dysfunction. With a suitable method at hand, devised by Randall,[1] for the microscopic examination of the uterine mucosa, we took up the study and a review of the factors concerned with the normal and abnormal changes in the endometrium due to disturbance in ovarian function.

While the menstrual cycle has been studied by many observers, Schroeder,[2] Novak and TeLinde,[3] Herrell and Broders,[4] and others, it was Hitschman and Adler[5] who first described the various changes in the endometrium during the normal menstrual cycle and showed that there was a correlation between the physiologic changes of the endometrium with the stages of the ovarian cycle. Previous to this epochal work, many, if not all, menstrual irregularities were ascribed to inflammatory changes in the uterine mucosa (endometritis).

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PHASES OF MENSTRUAL CYCLE

As the result of these observations, the normal endometrial changes are now commonly divided into four phases of the menstrual cycle, namely: Early proliferative, late proliferative, early differentiative and late differentiative. We have had an occasion to study microscopically many endometria and find that our observations are in common with those of Herrell and Broders.[4] In the early proliferative phase, which occurs during the first week after menstruation, the endometrium is forming new tubular glands apparently derived from the sub-basal layer. The glandular cells show a cuboidal type of epithelium with centrally placed nuclei. There is slight cellular proliferation in the loose stromal tissue. In the late proliferative phase, which follows the first and occurs the second week, the tubular glands are increased in number and although straight are considerably dilated. This and the first phase is influenced by the follicular hormone, estrin. It is in this second phase that the graafian follicle is undergoing maturation. The third or early differentiative phase is distinguished by beginning convolutions of the formerly straight tubular glands. The glandular epithelial cells are now columnar in type with the nuclei situated nearer their bases. The stromal tissue cells are definitely increased in number. This phase is dependent upon the early activity of the corpus luteum hormone and consequent disappearance of the graafian follicle. The fourth or late differentiative phase, sometimes termed the premenstrual phase and which occurs the fourth week of the menstrual cycle, is characterized by an advanced stage of differentiation, the tubular glands showing marked tortuosity. The glandular epithelial cells are now definitely columnar with the nuclei at the bases. Glycogen material is seen in many of them indicating secretory activity. At about the time of menstruation the stromal tissue becomes engorged with blood and infiltrated with polymorphonuclear and mononuclear cells. Following the normal degeneration of the corpus luteum toward the end of this phase, the stimulus for progesterone disappears, resulting in dissolution of the epithelial cells terminating in menstruation.

MORPHOLOGIC VARIATIONS

Since it has been shown that the morphologic variations of the endometrium depend upon a normal balance between the follicular and corpus luteum hormones of the ovary, attempts were made to interpret the histologic findings in the endometrium on the basis of partial or complete ovarian failure. Herrell and Broders[4] have shown where there is an arrestment of the process of regeneration in the proliferative phase it usually indicates partial ovarian failure at least to the degree of corpus luteum deficiency. This so-called "persistent proliferative phase" of endometrium we have found occurs in elderly women with amenorrhea and other menopausal symptoms. Microscopic examination of the endometrium in these cases showed few small straight tubular glands, simulating the early proliferative phase of menstrual cycle. Years ago this type of endometrium was termed hyperplastic endometritis. In many of the endometria examined cystic changes were noted giving the so-called "Swiss-cheese" type of endometrium. Duhig[6] claims that this cystic hyperplasia is associated with follicular dysfunction, the prolonged action of estrin causing the cystic changes. Kaufman[7] believes the imbalance between these hormones causes the proliferative phase of the endometrium to become exaggerated, preventing the onset of the differentiative phase with the shedding of the uterine mucosa as in normal menstruation. The bleeding in some of these cases is apparently due to the overproduction of follicular hormone and the prevention of the formation of a corpus luteum.

In young women with irregular menstrual bleeding we have found in most cases a differentiative type of endometrium both in the early and late phase, depending upon the degree of activity of the corpus luteum hormone, progesterone. Here, too, there is slight ovarian failure probably due to lack or absence of the factor which initiates the complete desquamation of the epithelium. From a clinical point of view its importance

lies in the fact that it is the primary cause of functional uterine bleeding and administration of A. P. L. hormone which is luteinizing in its action, is frequently of value. By the action of this hormone, the arrested proliferative phase continues its regeneration to the differentiative and regular menstruation occurs.

In women where there was complete ovarian failure due either to natural or artificial causes, we have found in most instances atrophy of the uterine mucosa. It is natural that atrophy will result when there is complete absence of both estrin and progesterone, the phase of proliferation being dependent upon the action of the former, while the latter influences the differentiative phase. Microscopically the endometria examined showed a single layer of epithelial cells overlying a loose connective tissue stroma.

THE ROLE OF OVARIAN TUMORS

Regarding the role played by certain ovarian tumors and their relation to endometrial changes, we have found a study of the uterine mucosa, with the aid of clinical manifestations, is of importance in interpreting the underlying pathology. Based on clinical and pathologic study, ovarian tumors may be divided into three groups, namely, feminizing, masculinizing and neutralizing varieties. In group 1, that is those that have a feminizing effect, are included the granulosa cell and theca cell tumors. In both there is an oversecretion of the follicular hormone, estrin. When a granulosa cell tumor develops in women past menopause, there is a re-establishment of menstruation due to overproduction of follicular hormone. However, when such a tumor develops in a child, the hormonal effect is more pronounced, causing precocious puberty with development of the breasts, premature menstruation and early growth of genital hair. Histologically the tumor cells resemble closely the granulosa cells lining the normal graafian follicle. Geist[8] and Meyer[9] studied the endometrium in these conditions, describing a hyperplastic type of endometrium, the hyperplasia being due, according to Meyer, to proliferation of granulosa cells with augmentation of the normal hormonal effects. Thomsen and Stabler,[10] in their report, describe the endometrium as being thick but no true hyperplasia was noted. Pratt[11] described the endometrium as being hyperplastic, showing many cystic changes. We have had an occasion to study the folliculoid type of granulosa cell tumor removed from a young girl, the endometrium being carefully studied at the same. The microscopic picture of this endometrium was that seen in the late proliferative phase with numerous small cystic areas.

Since the theca cell tumor also produces an excess of estrin, the symptomatology is the same as in the granulosa cell tumor. This type of ovarian tumor usually occurs in women past the menopause and causes irregular menstrual bleeding. Melnick and Kanter,[12] Neely,[13] and others in their reports of theca cell tumor make no reference to the endometrial changes associated with this type of ovarian neoplasm. In our study of the luteinized type of theca cell tumor, removed from a woman 42 years of age and in whom irregular menstrual bleeding occurred three years following her menopause, we found the endometrium was in the late proliferative phase of the menstrual cycle. Microscopically the tumor showed whorls of connective tissue cells with elongated nuclei surrounding islands of round cells with hyperchromatic nuclei, some showing mitotic figures. Scattered throughout the tumor were islands of large oval cells with a poorly stained, foamy cytoplasm.

Group 2 comprises those tumors which have a masculinizing effect, namely, the arrhenoblastoma and the hypernephroma. The arrhenoblastomas arise from undifferentiated testicular cells which in their development produce an oversecretion of the "male sex hormone", testosterone. The clinical manifestation such as amenorrhea, change in voice, hirsuitism, and hypertrophied clitoris are due to overproduction of this hormone. Baldwin and Gafford[14] described a hyperplastic endometrium associated with an atypical type of arrhenoblastoma. Maxwell[15] examined the endo-

metrium and found it atrophic in the lower half of the uterus and thickened in the upper half. Meyer[16] found atrophy of the uterine mucosa associated with amenorrhea. A study of the endometrial changes in a woman with atypical arrhenoblastoma and in whom marked secondary sex characters were present, showed definite regression or atrophy such as one sees when there is complete ovarian failure.

The other ovarian neoplasm included in this group is the hypernephroma or adrenal cell rest tumor. There is still some doubt as to the origin of these rare ovarian tumors. It is thought by some that they arise as the result of misplaced adrenal cells in the ovary. Since there is an oversecretion of the adrenal gland hormone, cortin, the adrenal cell rest tumors bring about changes in women similar to those seen in the arrhenoblastomas. The histologic picture resembles the adrenal cortex with small nuclei surrounded by a clear cytoplasm. They likewise simulate the cortical adenomas which are also masculinizing neoplasms. The adrenal cell rest tumor which we have had an opportunity to study, occurred in a woman 44 years of age. Secondary sex characters were present but not to such a degree as is seen in women with arrhenoblastomas. Microscopically, the tumor cells resemble those of the adrenal cortex. The endometrium in this case was thin, with a few small tubular glands, resembling an atrophic type of endometrium.

In group 3 are placed those ovarian tumors which have a neutralizing effect, namely, the dysgerminoma and Brenner's tumor. The former differs from other ovarian tumors in that it occurs both in the female and male gonads. This tumor is common in pseudohermaphrodites, cryptorchids, and those with poorly developed gonads. Clinically these patients show no signs of feminization or masculinization since no hormones are liberated by the tumor cells. Meyer[16] was first to describe accurately the histology. Wolfe and Kaminester[17] described the gross and histologic pathology of this neoplasm but no mention is made regarding the type of endometrium. The two dysgerminomas which we have studied occurred in young women showing no anatomic changes except infantile genitals. In both cases the tumor was unilateral, one about 11 cm. in diameter, the other about 18 cm. Microscopically, both tumors consisted of large rounded cells with little cytoplasm, irregularly arranged in masses separated by narrow strands of fibrous connective tissue. The nuclei were round and vesicular with an occasional mitotic figure. In one case there was an alveolar arrangement of the cells separated by connective tissue stroma, containing lymphocytes. In both cases the endometrium histologically resembled the late proliferative phase of the menstrual cycle.

In 1907 an ovarian tumor termed "oophoroma folliculare" was reported by Brenner[18]. Meyer[19] classified Brenner's tumors into two types, a solid and a cystic. Clinically these tumors are benign, usually unilateral and in over 50 per cent of the cases reported occur in women over 50 years of age. They have no special biologic effect. Smith[20] in his report of a Brenner's tumor described the endometrium as being in the premenstrual phase. Gnassi's case[21] was associated with a subacute endometritis. Proescher and Rosasco[22] state in most cases the uterus is without abnormalities. Our observation of Brenner's tumor of the cystic type, occurring in an elderly woman without clinical manifestations, showed the tumor to be about 8 cm. in diameter. On microscopic study, there was a dense fibrous connective tissue stroma. Scattered throughout this were numerous large and small nests of epithelial cells. These nests were made up of large rounded cells with a light-staining cytoplasm, containing small hyperchromatic nuclei. Many such cystic areas were seen throughout the section. These cysts were lined with cuboidal epithelium and contained a pink-staining homogeneous substance. An atrophic type of endometrium was found in this case.

SUMMARY

1. The uterine changes of the normal menstrual cycle are briefly described.

2. The endometrium is now commonly divided into four phases: The early and late proliferative which are dependent upon the follicular hormone, estrin, and the early and late differentiative which are influenced by the corpus luteum hormone, progesterone.

3. Under certain conditions the endometrium may show cystic areas, the so-called "Swiss cheese" endometrium. Endometria of this type are particularly seen at the time of the menopause and are believed due to follicular dysfunction.

4. Atrophy of the endometrium follows complete absence of both the follicular and corpus luteum hormones.

5. Various ovarian tumors which exert a hormonal effect, and the endometrial changes associated with each type, are described.

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DISCUSSION

Dr. John S. Couret (New Orleans): I think Dr. Kriz is to be commended for bringing to our attention at this time the study of endometrium and its relationship with the ovaries, as far as we have been able to go at the present time. This study of the endometrium by biopsy is a relatively new diagnostic procedure in medicine and, in my opinion, the surface of its possibilities has only been scratched. We are able to determine relatively few conditions by the microscopic examination of the endometrium, but as time goes on, I believe—and I would like to express this point—that this procedure will be and should be used more and more, and as we get to know more and more about it we are going to be able to diagnose more conditions, particularly in the female genitalia. I would like to feel that besides the diagnosis of certain tumors of the ovary and certain other conditions of the ovary, that we will, as we go, learn more about the subject, be able to diagnose and treat conditions properly in the other ductless glands throughout the body.

There is one point, going back to the ovary, I would like to mention. The gynecologist is, of course, extremely cognizant of cystic disease of the ovary or multiple follicular cysts of the ovary. Some men will puncture these cysts, others will do various specific operations on the ovary in order to cure this disease which is so prevalent. It is my opinion that we can, by further study of the endometrium of these patients, diagnose these conditions preoperatively and probably take care of these ovaries by merely some form of endocrine therapy.

Dr. W. R. Mathews (Shreveport): A practical aspect of this subject concerns the limitations of the histologic diagnosis. I have been attempting to interpret uterine scrapings and endometrial biopsies for the past fifteen years and one of my greatest difficulties has been to secure information indicating the phase of the menstrual cycle at which the curettement was performed, or data concerning the menstrual disorder present. In my experience the late proliferative type of endometrium has been the most frequent histologic finding in curettings. Whether or not this has always been significant, one could not say without knowing the phase of the cycle. Prior to the menopause the proliferative type of endometrium is normal during the first two weeks of the menstrual cycle but is abnormal in the third and fourth weeks, indicating a lack of luteal effect. If the late proliferative

type should be obtained from a patient who had had uterine bleeding for several days or weeks, the interpretation would be persistent estrogenic effect or hyperplasia. I have found the "Swiss cheese" type of endometrium most frequently at the two extremes of menstrual life; in girls and young women and in older women approaching the menopause. Another endometrial pattern occasionally encountered is the so-called irregular ripening and shedding. Here one sees a mixture of cystic hyperplasia and endometrium of the secretory type. This is probably to be interpreted as evidence of gradual ovarian failure, with failure first of the corpus luteum. In my experience this type of endometrium has occurred mainly in patients near the menopause who sought treatment for vaginal bleeding.

I had the opportunity this spring of seeing a Brenner's tumor not larger than the end of the small finger which was associated with cystic hyperplasia of the endometrium, but the ovaries were full of small follicular cysts. Of course, the association of Brenner's tumor and hyperplasia of the endometrium is to be regarded as coincidental as the tumor is known to be physiologically inert.

In discussing masculinizing tumors, Dr. Kriz did not refer to the testicular adenoma which is physiologically active only in about one-third of the cases. It is a small solid, yellow nodule occurring in the testicular portion of the ovary and is of no clinical importance unless it masculinizes the patient. The two tumors of this type that we have studied were found accidentally in the routine examinations of adnexa removed for other pathology and were without physiologic effect.

Dr. P. Graffagnino (New Orleans): I would like to call attention to the most common complaint of the pathologist in connection with the handling of specimens of endometrial tissue, the failure of the operating room assistants to record on the specimen label the necessary information regarding the patient's last menstrual period. Every normal woman has a definite menstrual cycle which can be accurately determined by the pathologist when endometrial tissue is examined, if the first day of her last menstruation is given. The ovaries are primarily actuated by the pituitary gland and ovarian activity is unmistakably mirrored in the endometrium. This pattern is quite constant in the normal woman and the pathologist can determine whether the endometrial cycle is normal or not, providing the menstrual date is designated.

Dr. J. R. Kriz (In conclusion): It seems to me that in the histologic examination of the endometrium we have data which can be of real value in interpreting many of the ovarian dysfunctions. Recently Wollner, from his studies of biopsies from cervical and uterine mucosa, has shown that the histologic effects of the ovarian hormones can be demonstrated as clearly in the mucosa of the uterine cervix as in the endometrium. He believes the cervical biopsy method offers distinct advantages over the endometrial biopsy procedures.

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FRACTURES OF THE UPPER END OF THE HUMERUS TREATED BY EARLY RELAXED MOTION AND MASSAGE*

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AND

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NEW ORLEANS

Fracture of the upper end of the humerus represents a common type of injury in old people. It has been customary in the past to treat these injuries by immobilization of one type or another. One of the commonest forms of fixation is the use of the body spica with the shoulder in abduction. Some patients have been treated by traction splints of one type or another. Due to the fact that these people are elderly and most of them are overweight, any type of appliance is difficult to use with any degree of success.

There are objections to the use of immobilization in the treatment of fractures of the upper end of the humerus in old people, in addition to the inconvenience and discomfort inherent therein. Stiffness of the joints, not only in the shoulder but in the wrist, hand, and fingers, has been a not uncommon aftermath of immobilization. For these and other reasons we decided to use a method of treatment in these patients on the Tulane orthopedic service at Charity Hospital which is different from the conventional ones.

The purpose of this presentation is to present briefly the method of treatment used and to show x-rays and results in 14 patients treated by this method.

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PHYSIOLOGIC PRINCIPLES UPON WHICH TREATMENT IS BASED

The principle of treatment of all fractures by at least a preliminary period of immobilization is widespread and in most instances is based on sound principles. It is generally conceded, however, that the period of immobilization tends to bring about neglect of the soft tissues, resulting in stiffness, after the period of immobilization has ended. The fact that soft tissues undergo even more rapid changes than the bones subsequent to immobilization, is frequently overlooked. Muscle atrophy and fibrosis of muscle with contraction of the joint capsule and ligaments, takes place very rapidly following these fractures, especially when complete immobilization is carried out. Although muscle atrophy is not associated with an actual reduction in the number of cells but is caused by diminution in the size of the cells, it is often difficult to restore the muscle to its normal size and to its normal contractility and elasticity. When an extremity is immobilized, one or the other of the opposing groups of muscles shortens and the opponent is weakened. These changes in the soft tissues prolong disability even after the fracture has united and in some cases, result in permanent loss of function.

One of the frequent objections offered to early motion in the treatment of fractures is excessive bone formation, especially near joints where motion may be interfered with. Theoretically this may be true, but experience has not borne out this objection. In no instance of a fracture treated by early motion and massage has excessive callus formation been noted in this series.

It should be remembered that greater care must be exercised in the treatment of any fracture, dislocation, injury, or disease about the shoulder joint than in any other joint in the body. This is because of the peculiar anatomic make-up of the shoulder girdle. It is well known that the shoulder has a marked tendency to lose abduction and rotation following injury.

The objective in the treatment of these patients then is the early restoration of function. In order to restore function, early motion and massage are carried out so that immobilization may be dispensed with and the atrophy and changes taking place subsequent to disuse are prevented. Although it is well known that complete immobilization is desirable in order to obtain bony union in fractures in certain regions, this is not the case in fractures in certain other regions. Fractures in the upper end of the humerus seem to be an exception to the rule. Nonunion in this region is almost unheard of, whether there is impaction or not.

ADVANTAGES AND DISADVANTAGES OF RELAXED MOTION AND MASSAGE

It has been pointed out that these fractures frequently occur in old, obese people. It is needless to indicate the advantage of any method whereby plaster is not used. No splint of any type is necessary. Since the patient is elderly it is desirable to keep him up and active, as recumbency may produce a long train of complications. Hospitalization is not necessary when relaxed motion with massage is carried out. The patient may be completely ambulatory from the time of the injury and for this reason, this method of treatment is the one of choice from an economic standpoint. After a few periods of instruction, the patient may carry on his own treatment largely at home. Pain disappears after a few days and all soreness disappears by the end of two or three weeks. At this time active motion of the arm may be started and the bandage may be discontinued.

The chief disadvantage to the employment of this method of treatment is that a certain amount of cooperation and intelligence are essential on the part of the patient. Treatment by this method requires most careful observation and direction on the part of the physician in the early days of the treatment. These disadvantages are greatly outweighed by the advantages.

TECHNIC OF THE METHOD

The description of the method as given by Lindsay and Brown[1] has been freely drawn upon and no improvements can be offered at this time. Their technic has been fol-

[1]Lindsay, M. K., and Brown, C. M.: In Principles and Practice of Physical Therapy, Ed. by Mock, Pemberton and Coulter, vol. III. Hagerstown, Md., W. F. Prior and Co., 1937.

lowed in detail. The patient's confidence and willingness to cooperate are essential in the use of this method of treatment. The importance of obtaining complete relaxation in the muscles before motion is attempted cannot be over-emphasized. This may be difficult at first, especially in young children and in elderly patients.

The patient is placed supine and superficial heat is applied for about 10 minutes. This is followed by light stroking massage beginning first about the shoulder girdle and shoulder proximal to the site of the fracture. Following massage a pad is placed in the axilla, the arm bound lightly to the side and the forearm placed in a sling. The patient is allowed to become ambulatory immediately. This is repeated daily for the next three days without removing the dressing. This period of treatment simply permits the patient to recover from shock and from the immediate pain suffered from the injury. If gross displacement is present, such as complete separation of the fragments with overlapping, manual reduction under anesthesia, of course, should be carried out. After reduction of the fracture, massage and relaxed motion are carried on in the usual way.

After the third day the heat and massage are followed by relaxed motion. At this time, after heat and massage have been applied, the patient is allowed to stand up. Great care should be exercised in the changing of the position so that the patient will not experience any discomfort whatsoever.

Relaxed circumduction of the shoulder is accomplished by having the patient bend forward while he is standing with the knees straight and with the hand of the normal arm resting on the table for support. With the patient bending over in this manner, the affected arm simply hangs down with the elbow extended. It should be remembered that the type of motion obtained at this time is essentially that caused by the action of gravity in the relaxed extremity. The patient's body is grasped slightly above the hips by the hands of the physician and is moved in such a way as to cause the arm to swing in circumduction without any muscular effort on the part of the patient. The treatments are repeated daily. When the sensitiveness and tenderness have disappeared, the patient may begin active motion and by the end of three weeks the usual shoulder exercises may follow. The sling and bandage may be discontinued after swelling and tenderness have disappeared.

CASE REPORTS

In considering the following cases it should be kept in mind that these are the first of a series of patients treated by this method. The patients are nearly all old people who were seen at Charity Hospital. Due to the age and status of the patients, cooperation has not been all that could be desired. Many of them were admitted to the hospital because they lived out of town and it would have been impossible to follow them otherwise. At this time, September 29, 1939, some of these cases represent end results, while others are still under treatment. It should be noted that various types of fractures of the upper end of the humerus have been treated by this method. Fractures of the greater tuberosity heretofore usually treated in abduction and external rotation in either a brace or plaster have responded favorably to this method of treatment.

CASE NO. 1

Mrs. G. W., a white female, aged 85, was injured on August 19, 1939. X-ray findings: Fracture of the neck of the humerus with marked displacement.

Treatment was started on August 19, 1939, in the out-patient department, by relaxed motion and massage of the shoulder daily for three weeks. Following this, she came in every other day for two and a half weeks. She is a recent case at this time and is still getting treatment every other day which consists of massage and relaxed motion. Cooperation has been poor. Despite this, progress has been good. It is too early to determine end results.

CASE NO. 2

Mrs. M. S., a white female, aged 59, was injured on March 31, 1939, and treatment was started the following day. X-ray findings: Complete fracture of the surgical neck of the humerus with medial angulation and moderate displacement.

Treatment: She was admitted to the hospital on March 31, 1939. The arm was bandaged to the side for three days, after which daily massage and relaxed motion were carried out while in the hospital for 10 days. She was discharged April

11, 1939. Following this she returned to the out-patient clinic daily for one month. She then received treatment three times weekly for two months. Following this, she came in for treatment once a week for six weeks. Good results were obtained. X-ray on September 13, 1939, five and one-half months later, showed bony union with slight abduction of the upper fragment but good alignment.

CASE NO. 3

Mrs. M. N., a white female, aged 55, received an injury on May 30, 1939. X-ray findings: Impacted fracture of the neck of the humerus with external rotation of the head of the humerus. There is moderate displacement.

Treatment: She was admitted to the hospital on May 30, 1939. The arm was bandaged to the side with an axillary pad and after three days, treatment was begun on June 3, 1939, with massage and relaxed motion. She was discharged on June 6, 1939, after one week in the hospital. She returned to the out-patient clinic where she received daily treatments for the next three weeks. She then received treatment three times a week for one month. Progress has been satisfactory; good result. X-ray on September 13, 1939, three and one-half months after injury, showed solid union with good general alignment of the humerus but some adduction of the upper fragment.

CASE NO. 4

Mrs. J. L., a white female, aged 53, was injured on April 16, 1939. X-ray findings: Fracture of the greater tuberosity of the humerus with slight displacement upward.

Treatment: She was admitted to the hospital on date of injury. She received daily treatments for two weeks and was discharged on April 26, 1939. She returned to the out-patient department where she received massage and relaxed motion for two months; good result. X-ray five months after injury, September 13, 1939, showed solid union of fracture in good position.

CASE NO. 5

Mrs. A. D., a white female, aged 55, received an injury on July 17, 1939. X-ray findings: Fracture of the neck of the humerus with moderate displacement and angulation.

Treatment: She was admitted to the hospital July 17, 1939. On admission an axillary pad and an Ace bandage were applied to the upper extremity. She received massage and relaxed motion daily until July 23, when she was discharged. She returned to the out-patient clinic daily for three weeks where treatment was continued. She then came in every other day for three weeks and three times weekly for two weeks. Following this she came in once a week for three weeks. Cooperation was poor. The result was good. X-ray on September 16, 1939, about two months after injury, showed solid union with good alignment.

CASE NO. 6

Mr. R. W., a white male, aged 73, was injured on August 7, 1939. X-ray findings: Fracture of the surgical neck of the humerus with slight displacement.

Treatment: He was not admitted to the hospital. In the out-patient department an axillary pad was applied and the arm bandaged to the side with an Ace bandage where it remained for three days. Following this, massage and relaxed motion were started and continued daily for seven days. No motion was carried out for the following three days. He came irregularly for treatment but despite this fact, progress to date has been satisfactory. It is too early for end result rating. X-ray about one month after injury, on September 9, 1939, showed good alignment of fragments.

CASE NO. 7

Mr. B. R., a white male, aged 84, was injured on June 25, 1939. X-ray findings: Oblique comminuted fracture of the surgical neck of the humerus.

Treatment: He was not admitted to the hospital. He was seen in the clinic where an axillary pad and an Ace bandage were applied with the arm at the side for three days. Following this, massage and relaxed motion were started. He received treatment daily for one month, following which he came in every other day for two weeks, and twice weekly for two more weeks. He is still getting treatment at this time, September 28, 1939. Progress to date has been good and function is good; good result. X-ray on September 7, 1939, two and a half months after injury, showed solid union with good alignment of the humerus.

CASE NO. 8

M. R., a colored female, aged 69, received an injury on May 7, 1939. X-ray findings: Complete, slightly oblique, slightly comminuted fracture of the surgical neck of the humerus with slight displacement.

Treatment: Admitted to the hospital May 7, 1939. On admission to the hospital an axillary pad was applied and the arm bandaged to the side with an Ace bandage. After five or six days, massage and relaxed motion were started. She received daily treatments until May 28, 1939, when she was discharged. She cooperated poorly while in the hospital but despite this, progressed fairly well. She was lost sight of and has not been seen since she was discharged. The last x-ray was taken on May 29, 1939, twenty-five days after the injury, and showed good alignment with callus formation. Position was improved.

CASE NO. 9

Mrs. C. E., a white female, aged 38, was injured on March 8, 1939. X-ray findings: Oblique fracture of the surgical neck of the humerus with minimal displacement.

Treatment: On admittance to the hospital on March 8, 1939, lateral traction was applied in bed.

Massage and relaxed motion were started on March 16, 1939. She was discharged on March 17, 1939, and returned to the out-patient clinic daily for two weeks where treatment was given. She then returned twice daily for two weeks after which no further treatments were given. Progress was good and despite poor cooperation at first, the result was excellent. She later received a compound fracture of the tibia and fibula for which she was readmitted and at which time the end result on the shoulder was obtained. This patient was the first one treated by this method, with excellent results. X-ray on May 10, about seven weeks after injury, showed solid union with good alignment.

CASE NO. 10

Mrs. A. F., a white female, aged 39, sustained an injury April 9, 1939. X-ray findings: Fracture of the greater tuberosity of the humerus with minimal displacement.

Treatment: She was admitted to the hospital on date of injury. An axillary pad was applied and by means of an Ace bandage, the arm was bound to the side. The forearm was placed in a sling. On the third day massage and relaxed motion were started. She received treatments for one week while in the hospital. She was discharged April 16, 1939. She returned to the out-patient department where she received treatment every other day for one week. She then missed 10 days, following which she received treatment every other day for one week. She has not returned since this time. The result was excellent. The last x-ray, taken one month after injury, on May 10, 1939, showed good position of the fragments.

CASE NO. 11

Mr. G. S., a white male, aged 50, was injured on March 12, 1939. X-ray findings: Comminuted fracture through the anatomic neck of the humerus with minimal displacement.

Treatment: He was not admitted to the hospital. He was seen in the out-patient clinic on the day following injury, at which time an axillary pad was placed and the arm bound to the side by means of an Ace bandage. On the third day, massage and relaxed motion were started. He received treatment every day for one month, after which he came in every other day for six weeks. He was then treated twice weekly for two weeks, after which treatment was discontinued. The result was excellent. X-ray taken September 13, 1939, eight months after injury, showed a normal appearance of the humerus with no evidence of a previous fracture.

CASE NO. 12

C. R., a colored female, aged 50, received an injury on September 6, 1939. X-ray findings: Fracture through the surgical neck of the humerus with slight displacement.

Treatment: The patient was admitted to the hospital on September 6, 1939. An axillary pad was applied and the arm bound to the side by means of an Ace bandage. She has received daily treatments and is still under treatment in the hospital at the time of this writing. Progress to date has been satisfactory. It is too early for end result rating.

CASE NO. 13

J. D., a colored male, aged 67, sustained an injury on May 15, 1939. X-ray findings: Comminuted fracture of the upper end of the humerus. (*Note:* This was a compound fracture due to a gun shot wound. It is the only compound fracture in this series treated by this method.)

Treatment: He was admitted to the hospital on date of injury, to the Surgical Service, where he was temporarily splinted and dressings applied. He was then transferred to the Orthopedic Service four days later, where massage and relaxed motion were started on the same date. He received daily treatments until he was discharged on June 11, 1939. Cooperation was good; progress was excellent. He was readmitted to the hospital about two months later, at which time had full motion in the shoulder joint without pain. The result was excellent. The last x-ray available is dated May 30, 1939, two weeks after injury, and showed normal anatomic position of fragments with callus formation.

CASE NO. 14

Mrs. F. L., a white female, aged 66, was injured on September 6, 1939. X-ray findings: Fracture of upper end of humerus through the surgical neck.

Treatment: Massage and early relaxed motion. This is a recent case and the patient is still under treatment. It is too early to determine results.

SUMMARY

A report has been given on the use of massage and early relaxed motion in the treatment of fourteen cases of fracture of the upper end of the humerus. This series of cases is not large enough to furnish a basis for final conclusions, but the results thus far on the whole are favorable enough to justify the continued use of the method in preference to any other heretofore employed.*

DISCUSSION

Dr. Marvin P. Knight (New Orleans): Treatment of fractures which occur in the upper third of the humerus involves more than the fracture itself; as stated non-union in this area is almost unheard of. The largest majority of these fractures occur in elderly people, and the problem of

*The writers are indebted to Dr. Guy A. Caldwell, Chief of the Tulane Orthopedic Service, for helpful suggestions and for permitting the use of the method on the service. One of the authors (R. H. A.) is indebted to Dr. J. R. Cobb, of New York City, from whom he learned the value of this method.

maintaining a usable painless shoulder, elbow, and wrist, becomes more of a problem than the fracture. This series of cases treated by massage and relaxed active motion prevents not only the above complications, but the more serious terminal complications following bed rest in elderly people. With the exception of one patient, the pain and swelling had disappeared in the shoulder, elbow, and wrist, the first week of treatment.

The comfort of each patient treated by massage, relaxed active motion was realized in every case following from one to three treatments. Each of these patients was very optimistic, when told the type of treatment he was to receive. Some insisted the arm was broken. Each individual had a different attitude following the first week of treatment.

As stated by Dr. Alldredge, the success of the above treatment depends largely upon the cooperation of the patient. Special care, time, and patience are very valuable during the first week of treatment. The success of the treatment can usually be determined in that first week. If full cooperation on the part of the patient is received the outcome can easily be explained to the patient, that he, or she, will have a good arm, a painless, useful arm as quickly as the fracture heals.

It is sometime rather difficult for a patient, 60 to 85 years of age, to understand just what is expected of him. We found it rather profitable to encourage a relative to attend the first treatments, and assist the individual in the following treatments. The lack of burdening the patient by the use of plaster cast and apparatus encourages the patient to remain ambulatory. Being ambulatory is essential to this type of treatment, it is a part of the treatment. The patients of this series who were admitted were not allowed to use the bed during the day. Therefore the patient escapes the possibility of bed rest complications.

None of these patients received reduction of the fracture under anesthesia, following the injury. Had this been carried out the anatomic positions of each could have been improved, but to obtain more range of motion is doubtful; however, it is advised where marked displacement is present.

This treatment, in my estimation, is an improvement toward the treatment of fractures which occur in this region, because the percentage of complications is markedly reduced, the treatment, itself, is comparatively simple, the expense to the patient is less, and the period of convalescence is markedly reduced. However, the physician must be patient, give a little more of his time to the case, and receive the full cooperation of the patient.

Dr. Guy A. Caldwell (New Orleans): I think these results speak for themselves and any of us who have watched treatment of shoulder fractures develop can appreciate the difference as compared to results obtained when we used plaster and aluminum abduction splints. It is most difficult to care for a fat, elderly woman with her arm on an abduction splint. It is next to impossible and the results are not as good as these and the length of treatment much longer.

Dr. Alldredge and Dr. Knight have presented this method of treatment very well with the exception of explaining the trick of the thing to you. The trick is that when the patient bends forward with the arm hanging straight down the shoulder has moved through an arc of 90° in forward flexion; as the arm hangs its weight relaxes the muscles at the shoulder, the joint surfaces are thereby separated and it becomes possible to carry out circumduction by trunk movements transmitted to the dangling arm without producing pain or muscular spasm. Constant traction is being maintained on the fragments while the movements are carried out and no displacement can occur.

The results obtained in the cases shown prove beyond question that the method is useful and should be continued.

Dr. Rufus H. Alldredge (In conclusion): I should like to say that the massage was given by the physiotherapy department of Charity Hospital. Dr. Knight has cooperated to the extent of being present whenever one of these patients came back, supervised the massage given by the physiotherapy department and directed active motion. There is no reason, however, why this treatment can not be carried out in the office by the physician. It should not be beneath the dignity of anyone to give the type of massage used in this connection.

In order to obtain further abduction at the shoulder or more elevation as mentioned, I think it best to have the patient lie down and go through active motions. If the patient can complete every motion simply lying on his back, well and good; if not, then a pulley is attached to the head of the bed with a light weight and the patient is advised to lie down and pull on the pulley.

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THE ANNUAL MEETING OF THE STATE MEDICAL SOCIETY

It is not too soon to begin to think about the approaching meeting of the State Medical Society which will be held in New Orleans this year the latter part of April. If a man is anxious to go to the State Society meeting he should begin to make his plans early. As pointed out before, if it is known that the doctor is to be away at a given time his clientele is less likely to make demands upon him and is more likely to be thoughtful in calling him at this time. Furthermore, if a person develops an acute sickness, if the physician has told his patients he will be away at this time, they will have less objection to his leaving them in the hands of some other doctor.

It would be well to stress the point with the patients that the State Society meeting is not merely a pleasant relaxation in the busy life of a physician, it is definitely educational. When a man returns from the State meeting he will find that he has been medically refreshed, he has learned about new methods of procedure, he has acquainted himself with the modern ideas concerning diagnosis and treatment and he has advanced himself measurably in his fund of knowledge. Furthermore, by taking part in the discussions he can himself aid in increasing the knowledge of others through his experience and his observations. The programs of the State meetings of the last few years have been invariably excellent. No one, no matter how large his practice or how broad his information, can fail to get something new, a fresh point of view, an original angle, or a novel approach to some of the problems that he meets in every day practice.

There is a great deal of discussion at the present time concerning the value of refresher courses, symposia, the presentation of newer things in medicine to the older practitioners of medicine. Our own State Society has been interested in this problem. When all is said and done, the State Medical Society meeting represents an excellent educational program for the physician. So valuable has this educational feature of the State Society meeting been considered that, in one state at least, a certificate is given to those men who attend five consecutive meetings. This is merely a recognition that they are interested in keeping abreast of the times and that this certificate hung in the office will show the doctor's clientele that he is a man who is on his toes, wide awake and interested in current medical advances.

STATE MEDICINE

At the Annual Congress on Medical Education and Licensure where there were collected representative medical men from all over the country, including educators and members of State Boards of Medical Licensure, it was the general consensus that for the time being the Wagner Act had been relegated to the background. It was felt that the President of the United States realized the tremendous difficulties which would be encountered in attempting to make effective the original Wagner Act. Likewise it was realized that this would require tremendous expenditure of money which would be very hard to justify in view of the almost united opposition of the medical profession, which has taken definitely the stand that the Wagner Act would be detrimental to medical service and medical care. As a matter of fact there are so many poorly conceived socialistic ideas in this bill it is very doubtful indeed if it would be able to pass Congress.

The American medical profession, under the leadership of its organized representation, the American Medical Association, has pointed out many of the wrongs that this Act would perpetrate on the medical profession. Not only has the American Medical Association been active in combatting this piece of ill-advised legislation but also state medical societies and their subsidiaries, parish and county organizations. In place of this bill Mr. Wagner has introduced, probably prompted by the President, a bill which provides for the promotion of the national health and welfare through the appropriation of funds for the construction of hospitals. A copy of this bill can be obtained from the American Medical Association office, by any physician interested in its details. Suffice it here to say that ten million dollars are to be appropriated for carrying out the purpose of the Act. The hospitals will be established only where there is need for them. Assurance must be given to the Surgeon General of the United States Public Health Service that not only the need exists but the hospitals will be kept in repair and will be financed by the local community. To carry out the details of the Act there will be established a National Advisory Hospital Council which will consist of the Surgeon General and six appointed members selected from the leading medical or scientific authorities interested in hospital and public health medical service. Through this Advisory Council it is obvious that the physician will be represented and will have some say in the carrying out of the Act.

In many ways the Act seems like an excellent one. The president-elect of the American Medical Association spoke in behalf of it at the Chicago meeting and other medical economists also spoke in its favor. It looks as if this Act would increase medical service to the indigent and would take care of the poorer sections of the country where hospital facilities are not available to the poor. However, as it has been stressed before, there are extremely few communities where this is true and these are often very sparsely settled and the inhabitants are long distances from each other. Another objection that might be pointed out is that while the bill calls for the appropriation of only ten million dollars, a tremendous reduction as contrasted with the other Wagner bill, nevertheless it is quite possible that when it is presented to Congress each and every Congressman will feel that he must have one of these hospitals in his district. Even though it is planned to spend not more than $150,000 on one hospital, each Congressman will want this small amount of gravy for his constituents and it might possibly be that there will be a tremendous increase in the amount of money appropriated. Inasmuch as this is an election year, when economy is the word, this contingency may be obviated for a year at least. The only other criticism that seems pertinent is whether or not in the sparsely inhabited sections of the country and in the poverty stricken areas there will be enough physicians and physicians who are sufficiently well trained to render adequate service. However, Section IX provides for monies to be expended by the Public Health Serv-

ice for the training of personnel. There is a remote possibility that this personnel may become government employees and the care of the sick in the hospitals be taken away from the hands of the local men.

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SULFAPYRIDINE AND PNEUMONIA

The very general use of sulfapyridine in the treatment of pneumonia has resulted in an influx of papers reporting on the very satisfactory results that have been obtained with this drug. These papers are appearing in medical journals of all types but, in spite of that fact, it does not seem inappropriate to point out some of the results that have been obtained, inasmuch as, probably due to the extremely cold weather of this winter, there has been a marked increase in the number of patients with pneumonia who have been, for the most part, seriously ill. One of the most complete early reports was that of Pepper et al.[1] who recounted the result of treatment in 400 patients to whom sulfapyridine was administered. These cases were all typed, 197 of them being due to the first three types of pneumonia. The mortality was 5.8 per cent in 104 cases of type I pneumonia, 6.7 per cent in 30 cases of type II pneumonia and 16.4 per cent in 67 instances of type III pneumonia. The mortality for the group as a whole was 7 per cent. These patients represented individuals who were seen during the early winter of 1938-39. The suggestion has been made that during this particular winter the pneumococcus was not particularly virulent. However, the results in the present winter have been, for the most part, equally satisfactory.

Abernethy et al.[2] report on 135 cases of pneumococcus pneumonia treated with sulfapyridine and sodium sulfapyridine with a mortality rate of 11.1 per cent. There were no deaths in the type I cases. These authors point out that in severely ill patients and in patients in whom apparently the oral sulfapyridine does not have any satisfactory effect, the drug may be given intravenously in the form of the sodium salt. This may be given intravenously in doses of 3.8 grams, the injections being given as frequently as every twelve hours if the necessity arises.

Another group of observers, Thompson et al.,[3] had 142 patients who had sulfapyridine treatment of their pneumonia. The mortality rate was 8.4 per cent. In the group of individuals between the ages of two and forty, there were no deaths. In so far as typing is concerned, of a considerable series of type III the mortality rate was 16 per cent. The incidence of complications, incidentally, was slight.

The administration of sulfapyridine varies somewhat with different observers. Under any circumstances the important therapeutic measure is to saturate the patient with sulfapyridine immediately, promptly and at once. Some recommend giving 4 grams (60 grains) of the drug in one dose, others to spread this over a period of four hours and then subsequently give a gram every four hours until the temperature has remained normal for at least two days. Succeeding the preliminary dose it is generally agreed that the one gram (15 grains) dose should be continued every four hours. The dosage in children recommended, namely 0.1 gram per kilo of body weight, is probably too small. Children can take larger doses than this without toxic manifestations.

Still another paper, from the Thorndike Medical Laboratory by Finland et al.,[4] reports on the use of sodium sulfapyridine intravenously. These authors merely accentuate what has been said, namely that the sodium salt given parenterally may be life saving in selective cases. Incidentally, these authors tried out the use of highly concentrated solution of sulfapyridine in 50 per cent glucose. While it was found to be non-toxic it was mostly inert.

The results from the use of sulfapyridine in pneumonia have been spectacular. If patients with pneumonia are promptly medicated with the drug the temperature returns to normal sometimes within twenty-four hours and remains normal. Undoubtedly the use of sulfapyridine in pneumonia is one of the greatest advancements in therapeusis that has been accomplished in

recent years. A disease which has a death rate year in and year out of between 20 and 25 per cent has fallen to a rate of one-third of the previous one. Aside from this, the complications are materially reduced and the length of sickness is markedly diminished.

1. Pepper, D. S., Flippin, H. F., Schwartz, L., and Lockwood, J. S.: The results of sulfapyridine therapy in 400 cases of typed pneumococcic pneumonia, Am. J. Med. Sci., 198:22, 1939.

2. Abernethy, T. J., Dowling, H. F., and Hartman, C. R.: The treatment of lobar pneumonia with sulfapyridine and sodium sulfapyridine, with observations upon effective blood levels, Ann. Int. Med., 13:1121, 1940.

3. Thompson, L. D., Edwards, J. C., and Hoagland, C. L.: Experiences in the treatment of lobar pneumonia, Ann. Int. Med., 13:1138, 1940.

4. Finland, M., Lowell, F. C., Spring, W. C. Jr., and Taylor, F. H. L.: Parenteral sulfapyridine: The intravenous use of sodium sulfapyridine and a report of clinical and laboratory observations on the use of a glucose-sulfapyridine solution, Ann. Int. Med., 13:1105, 1940.

HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

TOURO INFIRMARY
New Orleans

A regular monthly meeting of the Medical Staff was held on Wednesday, February 14 at 8 p. m. The program consisted of a clinicopathologic conference by Dr. John A. Lanford; "Report of Two Unusual Abdominal Neoplasms in Infants under Two Years of Age" by Dr. Charles J. Bloom; "Ectopic Pregnancies Occurring in Touro Infirmary 1924-1936" by Dr. Perry Thomas; "Postpartal Hypertension" by Drs. Sam Nadler and Harry Meyer.

HUTCHINSON MEMORIAL CLINIC OF THE SCHOOL OF MEDICINE TULANE UNIVERSITY OF LOUISIANA
New Orleans

Scientific Session conducted by the Department of Preventive Medicine, Dr. W. H. Perkins presiding.

Congenital Webbed Neck with Infantilism (Dr. Leonard C. Scott): Congenital attachment of fingers, toes, webbing of axilla or the popliteal space are by no means rare developmental anomalies. Syndactylism together with polydactylism, hypogonadism, obesity, amaurosis, and mental retardation are characteristics of the Lawrence-Moon-Biedl syndrome and when occurring together must be regarded as very infrequent. Likewise webbing of the neck is also unusual and constitutes a feature of a true syndrome only when combined with other anomalies often enough to be apparently related.

Numerous accounts of webbed neck are mentioned in the literature. The earliest appears to have been the recording of a patient in a clinic in Dorpat. The description by Kobylinski in 1883 mentions the fact that this individual was born with extra skin on either side of the neck resembling wings. The case was that of an adult male who suffered no inconvenience and could move his head without difficulty or restriction. No mention is made of hypogonadism.

Another instance of webbed neck in a 15-year-old girl is described by Funke in 1902. In this instance there was marked retardation of development of the genitalia. Operative procedures were successful in producing excellent cosmetic results.

The anomalies, similar in appearance but not entirely in structure, described by Klippel and Feil in 1912, Darchter in 1922, Frawley in 1925 and Bauman in 1932, all with few exceptions present defects of the cervical vertebrae. In some of the cases one or more are absent, are fused together or are atrophic. In others there existed a spina bifida together with shortening of the neck, so that the phenomenon of webbing was not an actual excess of skin extending from the occiput and mastoid to the acromion and clavicle. In many of these instances there occurred feeblemindedness, mirror movements of the arms, torticollis, facial asymmetry, scoliosis with difficult respiration and deglutition.

In 1938 Turner reviewed the literature and described seven cases, all of which differ markedly from the earlier ones with the single exception of Funke's patient and perhaps one of Frawley's. They were either adolescent or adult females varying in age between 15 and 23 years. All presented the same sequence of developmental anomalies: Webbed neck, infantilism and in addition cubitus valgus to a considerable degree. Inasmuch as many apparently normal women exhibit this anatomic characteristic it can hardly be regarded as a developmental defect unless unduly exaggerated. Apparently none suffered to any extent from mental retardation, but all were below the normal height and the bone and real ages were not congruent. Turner in an addendum mentions three additional cases having been observed since writing the article, so obviously this syndrome is not rare, at least not in Oklahoma.

The patient who came under our observation is identical in most respects with those described by Funke and Turner, with the exception of the cubitus valgus, which was not noted at the time and the patient has so far refused to return for examination.

CASE REPORTS

I. D., a female 18 years old, came to the clinic in 1938 complaining of defective physical development. She is of mixed racial stock, Italian, French and Spanish. Her mother died at the age of 24 as the result of a miscarriage. Her father is still living but does not contribute to the support of the family and is a heavy drinker. Two other children, a boy and a girl respectively 15 and 13 years of age, are living and well and show no defects analogous to those of the patient.

She seems to have presented an unusual appearance at birth but was of normal weight and developed slowly, walking and talking at about two years. Apparently the webbing of the neck with the apparent shortness did not excite much attention but it was noticed that at about the tenth year she failed to grow or develop further. Her intelligence is good. She learned readily and attended high school for two years, walking twenty-two blocks to and from school.

By nature she is placid and cheerful, helpful at home and cooperative in the clinic. In no way irritable, she does not resent teasing with outbursts of temper, but calmly accepts the situation as she finds it.

Physical Examination: The patient presents the appearance of a dwarfed individual with a tendency to obesity. The neck appears to be shorter than normal but the head movements are seemingly unrestricted. A band of skin extends on either side from the base of the skull near the mastoid to the acromion process, being continuous with that overlying the scapula and the acromion end of the clavicle. The appearance is that of increased width of the trapezius muscle but palpation shows the web to be two skin layers with connective or fatty tissue between them.

The abdomen is obese, the genitalia infantile, and there has never been any menstruation. There is but a scant growth of hair on the pubis, and none in the axilla. Breasts are flat without fat or glandular tissue. No uterus could be palpated, but the vagina allows the introduction of the index finger.

The patient has a height of only 51¼ inches and a weight of 89 pounds. Other measurements are: Span 49½ inches, pubis to floor 24¾ inches, pubis to vertex 26½ inches, a difference of 1¾ inches. The two should be nearly equal and together approximate the height. The head was 20 inches in circumference, the chest 33½ inches and the abdomen 34 inches. The hands are short and spatulate, the fingers being almost equal in length. Aside from a multitude of pigmented moles and a slight bulbar protrusion which is apparently not of thyroid origin, the further examination is irrelevant.

Laboratory Findings: The urine showed no abnormalities. The hemoglobin was 75 per cent, the red blood cells 5,045,000; the fasting blood sugar was 80 mg. per cent; cholesterol in two examinations 190 and 198 mg. per cent; calcium 13.6 and 12.4 mg. per cent; and phosphate 3.1 and 3.2 mg. per cent. The Wassermann and precipitin reactions were both negative; the stool negative for intestinal parasites; the basal metabolic rate −1 per cent. An electrocardiogram showed only sinus tachycardia.

X-ray findings indicated delayed calcification of the epiphyses of the long bones and the metacarpals. The bone age is estimated to be retarded three or four years. The sella was found to be normal in size but with some elongation of the posterior clinoid process. The heart, aorta and lungs were found to be normal.

Therapy: Turner is the only one to achieve any result with hormonal therapy, Funke's patient being subjected to surgery. Furthermore, only one of Turner's patients was induced to grow and to menstruate.

In our patient no benefit was derived from the injection of 192,000 units of theelin administered between June 22 and November 12, 1938, and 1,200 units of antuitrin S between the latter date and January, 1939. It should be remarked that while no apparent results were achieved, the patient reported feeling subjectively much improved in stamina, endurance and well-being.

It is possible that this patient could be helped by a longer series of injections such as Turner employed. He used antuitrin G and theelin as well as progynon-B, the first two being supplied by Parke-Davis and Company, and the latter by the Schering Corporation. In addition he employed an anterior pituitary sex hormone preparation of Ayerst, McKenna and Harrison.

Conclusions: This patient undoubtedly is one with the growth anomaly complex described by Funke, and more in detail by Turner as a syndrome of webbed neck, infantilism and possibly cubitus valgus, though the latter deformity was not specifically noted.

The principal complaint of course is the hypogonadism which is probably due to functional deficiency of the pituitary, though it might be questioned whether the suprarenals do not play some role. This assumption is based on the masculine configuration of the body, without clitoris enlargement, and the possible relationship between multiple pigmented moles and adrenals.

Therapy with theelin gave no indication of stimulating gonad function, and menstruation was not established. It does not follow, however, that more energetic and consistent treatment would not be effective.

Urine Examination of the Apparently Healthy (Dr. W. H. Perkins): The examination of the apparently healthy places a high degree of dependency on the value and efficiency of accessory clinical tests. Since it is the aim of such examinations to reveal the earliest evidences of pathologic-physiologic changes even before the disease state

becomes clinically manifest, it is evident that tests to determine these changes should be able to present a satisfactory degree of reliability.

Healthy persons presenting themselves for examination place a responsibility on the examiner that must be met by a judgment on their present state that will not carry a false sense of security for the examined or a serious oversight on the part of the examiner. In this respect a health examination possesses all the characteristics of a physical examination in the presence of overt disease but in addition bears the necessity to reveal whenever possible the earliest departures from the normal.

This is a difficult task. The complete natural history of many of our common disabling and eventually fatal diseases is so little known that we are still largely ignorant of their beginnings. While the pathologist sees early changes in persons accidentally dying from other causes, the clinician sees them only after they are far advanced pathologically if not clinically. Diseases affecting the urinary secretory and excretory mechanisms are notoriously of this type. It can be said with almost certainty that none of us knows what the beginnings of clinical diseases of the kidney look like.

It is not infrequent that the health examiner has a patient who presents a blood pressure that remains constantly around 145/90 and who shows an occasional trace of albumin in the urine. He is immediately challenged to decide whether he is dealing with an early nephrosclerotic.

The intent of this discussion is not to give any answer to this serious problem but to re-examine one of the oldest of all clinical tests, namely, examination of the urine.

The time has long passed since physicians depended on the visual and olfactory, if not the gustatory, test for examination of the urine. In its stead there are employed chemical and microscopic examinations and certain functional tests that are alleged to reveal failures of more or less specific functions of the renal mechanisms.

The question therefore arises anew, "How much renal function examination is necessary in the health examination, or for that matter, any casual physical examination?"

The life insurance examiner has behind him an imposing array of experience tables. With these he can predict the probabilities of extension of life of individuals free from pathologic urinary findings. He knows the age of his client and if he finds a single urine specimen free from albumin, sugar and casts, lays odds that he will probably live at least to a given age. The client takes the bet and pays his premiums. If, however, some abnormality is found and a little further examination is done and the abnormality persists, the odds are raised and the examinee pays the increase if he wants protection. Such examinations are scientific in so far as they are based on mathematical probability; they do not apply to each integral member of the series. Obviously this type of renal examination is unworthy of any consideration in the type of work expected of a health examination.

An alternative to the insurance type of examination is the bio-assay recommended well back in the last century by Gould. In it he recommends that every individual undergo repeated complete analysis of the biologic specimen type. He would have us almost literally take our specimens apart, examining them *in vivo* just as far and completely as our examining methods permit. That was at a time when kidney disease was Bright's disease and before the development of our modern methods of studying renal mechanisms and tests for their efficiency. To resort to this method today would necessitate our well clients being placed in metabolic beds under strictly controlled conditions for at least a week. The number of examinations done would of course depend on the faith of the biologist in his available methods but in any case the client could not afford either time or money to pay for them.

There remains the further alternative of finding a method somewhere between these two, a method that will reveal the greatest amount of physiologic-pathologic change with the least expenditure of effort, time and expense on the part of both examiner and examinee.

The Department of Preventive Medicine has been faced with this problem since the inception of its Health Examination Clinic and we have not been too happy about our results. It is impossible for us to set up elaborate testing methods. Patients come to us as they do to you to find out where they stand in regard to their health, whether it be in the presence of openly manifest disease, or only the desire to know how healthy they are and to seek advice how to stay that way. These patients come to us but a few times and their circumstances prohibit extensive and prolonged examinations. Moreover, we are attempting to teach students how to evaluate health and maintain it in their clients in private practice.

Except under expediency we have abandoned completely the single urine specimen examination. Omitting in this discussion the all important part of the examination which is the history, and the physical examination of the kidneys, ureter and bladder that is systematically and traditionally carried out, we wish to present only the question of the adequate examination of the urine itself. We do not even intend to include the functional tests that are resorted to when conditions or suspicions indicate they should be carried out.

It has been our belief that the minimum that should be known about the urine of an apparently healthy person is the story of his 24 hour output. Since the excretion of urine and its chemical-physical make-up is a variable function, able to adjust itself normally to certain demands, we believe it important to know how this function be-

haves in a given individual through at least one complete normal day.

To do this, we ask the patient to select a day at his or her convenience on which the entire 24 hour output can be saved. For housewives this means almost any normal day. For those who go to work a Sunday or any other day off is usually available. Pre-school children are at home most days and school children can carry it out on Saturdays, Sundays or holidays.

The collection of the output involves saving all of every specimen voided over any 24 hour period. This means that a number of small bottles be made available because each voiding is kept complete and separate from all others. Directions must be explicit in this regard for otherwise they will bring only parts of specimens. Insistence must be made on cleanliness of the bottles particularly if they are soft drink bottles that had contained sugar.

The patients are instructed to tear off a corner of a newspaper, write on it in pencil the time of day the specimen was passed and poke it into the bottle so that it drops into the urine and settles on the bottom. The paper does not disintegrate, the lead does not run and the writing can be read easily through the bottle. This obviates the necessity of sticky labels on the outside that usually come off. All separate specimens are brought to us by the patient or left with us by some one else prior to the next return visit of the patient and as soon after collection as possible.

If directions have been well carried out we then have a mass of pertinent information about the urinary function over 24 hours, summarized as follows:

Amount: Measurement of the individual samples gives the 24 hour output. The time marked on each specimen tells whether it was day or night and the total of day specimens and night specimens gives the D/N volume ratio. Amounts of individual specimens may vary also with activity, fluid intake, and relationship to meals; all of which can be known.

Frequency: Measured by the number of bottles and their D/N ratios.

Reaction: Read individually for each specimen.

Specific gravity: The accumulated specimens give a number of specific gravity readings that can be related to each other, volume, meals, day and night activity and rest, and to any abnormalities that may be found otherwise. Fixation and variation in specific gravity readings roughly approximate the more accurate and controlled results of a Mosenthal test.

Albumin: Individual testing of specimens may reveal the effects of intermittent albuminuria, orthostatic albuminuria or the persistent findings of an advanced nephritis.

Sugar: If sugar tests are positive they can be related to meal times or first morning specimen, as it is customary to elicit in glycosuria.

Casts and other formed elements: Examined for in each specimen.

We present here the summarized findings on 47 adults (over 20) who have submitted specimens collected in this way. There have been far more youths and children seen in our clinic but only adults are selected now because they are in the age periods when most people are seen for insurance examination and when the chronic urinary findings are more likely to be present.

Of the 47 presented, 13, or 28 per cent, showed some abnormality in one or more specimens. This does not include interpretations of specific gravity readings or suspected abnormalities of D/N ratios or frequency. They represent only albuminuria, glycosuria, casts or excessive white or red cells (one case only). In no instance was any abnormality present in more than two of the fractional specimens. In ten the blood pressure was 140 systolic or over. No patient gave any history of renal disorder. The average number of specimens brought per patient was 5.6, the greatest number 9, the least 3. Frequency was therefore well exemplified by this number of specimens. No significance could be attached to the variations in specific gravity with the possible exception of one person, aged 20, who brought four specimens of specific gravity 1.032, 1.027, 1.023 and 1.025 and hyalin casts in the 1.027 sample. The only other finding in this case was a marked degree of faulty posture with kyphoscoliosis.

As fragmentary as this series is it appears to bear out our contention that the fractional analysis of all 24 hour urine specimens has a high probability of picking up abnormal findings to a degree significantly higher than the single test. Although single specimens from the mixed 24 hour output have not been examined by us it appears reasonable to believe that the occurrence of abnormal elements in only one or two of the 24 hour specimens might readily be overlooked by sedimentation of the mixture before being brought to us, or by dilution of small amounts in the full 24 hour volume.

Also, it appears that the comparison of samples will reveal significant data on which the appearance of abnormal findings might depend; for example, the findings of sugar after meals or albuminuria in evening specimens.

Whatever the value of urinalysis might be it cannot be considered apart from the history. It is our custom to require histories to be written with suficient data in regard to meals and habits of eating, occupation and activity, to anticipate correlation of these facts and urinary findings.

In our opinion the collection of single specimens over a period of 24 hours and their examination individually is of more value than a single specimen or a single 24 hour specimen in routine health examination work; that this type of examination will carry a significantly higher probability of revealing inconstant urine abnormalities; and that

it is a satisfactory basis from which to begin more extensive renal function studies as the findings might indicate. The fact that 28 per cent of a series of only 47 apparently healthy adults revealed abnormalities usually considered significant would appear to bear out this conclusion.

Discrepancies in the Results of Tuberculin Tests and Chest Films of Clinic Patients (Dr. Adrian Rodriguez): Any one who has attempted the diagnosis of tuberculosis in children has been confronted with the problem of a child with a negative Mantoux, and x-ray showing definite evidence of calcification in lung parenchyma or hilar nodes. In such cases there are certain possibilities: First, errors in technic of performing the Mantoux, or in using inadequate doses of tuberculin; second, calcium deposition in lung parenchyma or hilar nodes not due to tuberculosis; third, misinterpretation of shadows which may not be due to calcium; and fourth, tuberculous lesions which may have been completely healed with a subsequent loss of sensitivity.

Those same possibilities have arisen in children seen in the Departments of Preventive Medicine and Pediatrics, and for discussion tonight I have gathered 30 such cases with negative tuberculins and x-ray reports of calcification.

In both departments the intradermal test is used, old tuberculin 0.1 mg. being used in Pediatrics, and pure protein derivative (second strength) in Preventive Medicine.

The test is performed by one of the senior students, but supervised by a member of the staff; this is also true of the reading which is done in 48 hours. Our solutions are made up and kept fresh according to standard recommendations, although there are several reports in the literature of old tuberculin having been kept out of the ice box for six months without any loss of potency. Likewise, Seideman once obtained more positive results with a 7-12 weeks' old solution of P. P. D. (second strength) than with a so-called fresh dilution.

Our only possible error, therefore, as far as the tuberculin test is concerned, is in the use of a solution of insufficient strength.

Meyers recommends that the second dose of 1 mg. of old tuberculin be given to those reacting negatively to the weaker dilution, as otherwise a 10-20 per cent error may result. Hetherington has reported about 10 per cent negative reactors even to 1 mg. of old tuberculin; however, others have reported a much lower percentage of error. Tatterstall has found that a negative reaction to 0.1 mg. of old tuberculin excludes the presence of tuberculosis with a margin of error of only 2-4 per cent. Paretzky in Los Angeles has found 3.5 per cent negative to 0.1 mg. of old tuberculin whereas only 1.2 per cent negative to higher doses including 10 mg. He states, however, that he is not advocating a wholesale use of high doses of tuberculin for all negative reactors. This should depend on the clinical judgment of the examining physician.

In the cases from the Department of Pediatrics the use of higher doses was considered indicated in but one case. Negative reactions were then obtained to both 0.1 mg. and 1 mg. of old tuberculin.

In the Department of Preventive Medicine the second strength pure protein derivative was used routinely, so that an equivalent of 1 mg. of old tuberculin was used in all cases and larger doses were therefore considered unnecessary.

In a series of 200 autopsies Frimann-Dahl and Waller studied the non-tuberculous lesions which had produced x-ray shadows misinterpreted as parts of a primary complex. They found calcified thrombi or emboli in six cases; small intra-alveolar ossifications in seven cases, and non-tuberculous calcifications and thickened pleura in 48 cases. Anthracotic and silicotic nodules have also been found, and Meyers has seen pieces of lead in the chest, and small remains of iodized oil which were interpreted as representing lesions of the primary complex.

Miller emphasized the fact that blood vessels x-rayed axially produce shadows which may be confused with those of calcium. McPhedran states that such vascular artefacts are especially disturbing in films of infants, and troublesome in those of older children. In infants the vascular trunks closest to the larger vessels cause the artefacts, and these are large enough in proportion to the chest to suggest serious lesions. In such cases, slight rotation of the patient under fluoroscope, or taking the film at a different angle, will cause the false shadows to disappear, whereas those due to calcium persist.

Gass and co-workers, in Tennessee, sought to eliminate any error in the interpretation of x-ray films with negative Mantoux reactions. They sent their films to four other physicians of national reputation in tuberculosis. All observers agreed as to the presence of definite tuberculous lesions in approximately 25 per cent. In four of the five observations there was agreement in 46 per cent. The dose of tuberculin used in these patients was 1 mg. of old tuberculin.

Crimm and Short likewise used doses of tuberculin similar to ours and carefully minimized the questionable cases of calcification. Of 1,384 patients tested they found 191 or 13.8 per cent negative reactors in spite of roentgenologic evidence of calcification.

Another observation frequently made, and exemplified by one case in our series, is a loss of sensitivity after a previous positive tuberculin reaction. Our case, in 1934, showed definite tuberculous infiltration in both lung bases and a positive reaction to tuberculin. However, a year later, and ever since then, she has been consistently a negative reactor, even though her x-ray shows calcification.

Rich cites the following reports: Lloyd and McPherson studied 303 children, 2 per cent of whom became negative to 1 mg. of old tuberculin two years after the first test; Aronson followed 87 children, 9 per cent of whom became negative within five years. Horan found 14 per cent of a group of boys losing their sensitivity within a three year period, and Krause, Paretzky, and workers at Lymanhurst have made similar observations. Likewise, those working with Bacillus Calmette Guerin vaccine have seen the sensitivity produced disappear unless the vaccine was kept up.

Apparently sensitivity to tuberculo-protein depends upon the presence of viable bacilli in the pulmonary complex, or upon repeated small exogenous infections. Which of these factors is no longer present in each of the patients could not be determined.

(Illustrative roentgenographic films were shown.)

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

March 4. Board of Directors, Orleans Parish Medical Society, 8 p. m.
Clinico-pathologic Conference, Hotel Dieu, 8:15 p. m.

March 5. Eye, Ear, Nose and Throat Hospital Staff, 8 p. m.

March 6. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
Hutchinson Memorial Clinic Staff, 8 p. m.
Mercy Hospital Staff, 8 p. m.

March 7. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

March 11. Orleans Parish Medical Society, 8 p. m.

March 12. Eye, Ear, Nose and Throat Society, 8 p. m.

March 13. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
Touro Infirmary Staff, 8 p. m.

March 15. I. C. R. R. Hospital Staff, 12 noon.
New Orleans Dispensary for Women and Children Staff, 8 p. m.

March 18. Hotel Dieu Staff, 8 p. m.

March 19. Charity Hospital Medical Staff, 8 p. m.

March 20. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
Charity Hospital Surgical Staff, 8 p. m.

March 21. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

March 26. Baptist Hospital Staff, 8 p. m.

March 27. Clinico-pathologic Conference, Charity Hospital and L. S. U. Medical Center, 2 p. m.
French Hospital Staff, 8 p. m.

March 28. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

March 29. L. S. U. Faculty Club, 8 p. m.

During the month of February, the Society held its regular scientific meeting and a special meeting. At the meeting held February 12, the following program was presented by guest speakers:

Historical Sketch: Dr. Francesco Antommarchi, New Orleanian and Physician to Napoleon.
By Mr. Robert Glenk, Curator of Department of Natural Sciences, Louisiana State Museum.

Interesting Case Reports.
By Drs. Dean H. Echols and Edward L. Levert.

Plasma Protein: Methods of Determination and Clinical Significance.
By Dr. Howard H. Beard.

Modern Medical Illustration.
By Tom Jones, B. F. A.:
Associate Professor and Chief Artist at the University of Illinois College of Medicine and Dentistry, Chicago.

On February 29, the Society held a joint meeting with The New Orleans Graduate Medical Assembly. The following program was presented by two of the Assembly guest speakers:

Localization of Tumors of the Brain; Role of Electro-encephalography (Moving Picture).
By Dr. Henry W. Woltman, Professor of Neurology, The Mayo Foundation, Graduate School, University of Minnesota, and Head of Section on Neurology, The Mayo Clinic, Rochester, Minnesota.

Complications about the Eye in Acute Infectious and Contagious Diseases (Lantern Slides).
By Dr. John A. Toomey, Associate Professor of Pediatrics, Western Reserve University School of Medicine, and Physician-in-Charge, Division of Contagious Diseases, City Hospital, Cleveland, Ohio.

The following doctors were elected to active membership: Drs. William McD. Boles, John L. Kron, and Richard W. Vincent. Dr. Moss M. Bannerman was elected to intern membership.

Dr. Alton Ochsner attended the Pan-American Post Graduate Medical Assembly in San Antonio, Texas, January 23-25. Following this meeting Dr. Ochsner attended the meeting of the Board of Regents of the American College of Surgeons which was held in Chicago, February 11.

The following officers of the French Hospital Staff were installed at the annual dinner held January 24: Dr. N. J. Tessitore, chairman; Dr. Philip Montelepre, vice-chairman; and Dr. R. E. Rougelot, secretary.

Dr. John T. O'Ferrall attended the meeting of the American Academy of Orthopedic Surgeons in Boston, January 21-25.

At a meeting of the Catholic Physicians' Guild held January 24, the following officers were elected: Dr. Daniel J. Murphy, president; Dr. Edmund L. Leckert, first vice-president; Dr. Edwin L. Zander, secretary; Dr. Narcisse F. Thiberge, treasurer; Drs. Edward F. Bacon, Joseph A. Danna and James T. Nix, board members.

Drs. William H. Perkins and Julius L. Wilson attended the annual meeting of the Tuberculosis and Public Health Association of Louisiana at Monroe, January 30-31. Dr. Perkins is president of this organization.

Dr. Isidore Cohn took part in a symposium on the Requirements for Undergraduate Instruction in Fractures, at a meeting of the Fracture Committee of the American College of Surgeons in Montreal on February 9 and 10.

At the annual meeting of the executive committee of the staff of the Southern Baptist Hospital on February 8, 1940, the following were elected: Dr. John T. O'Ferrall, chairman; Dr. Sam Hobson, vice-chairman; Dr. Edwin H. Lawson, secretary.

Dr. Roy B. Harrison presided at the meeting of the Federation of State Medical Boards of the United States at the meeting in Chicago, February 10. He also attended the meeting of the Committee on Interstate Endorsement and the Internship Committee of the Advisory Council on Medical Education.

Dr. A. J. Hockett attended the meeting of the Executive Committee of the American Hospital Association which met in Chicago, February 12-13.

Dr. T. A. Watters was appointed associate editor of "Diseases of the Nervous System," a new medical periodical designed to disseminate accepted and proved methods of treatment in nervous and mental diseases.

Dr. Julius Lane Wilson was appointed to serve on the Committee on Standards of Undergraduate Education in Tuberculosis of the American Trudeau Society.

Dr. James K. Howles attended the meeting of the Jefferson County Medical Society at Beaumont, February 12.

Dr. Neal Owens was a guest speaker before the Harrison County Medical Society at Houston, February 14, the subject of his paper being "Treatment of Burns."

TREASURER'S REPORT

Actual book balance 12/31/39	$4,099.49
January credits	$2,354.87
Total credits	$6,454.36
January expenditures	$1,800.33
Actual book balance 1/31/40	$4,654.03

LIBRARIAN'S REPORT

During January, 117 volumes have been added to the Library; of these 86 were received by binding, 12 by gift, 1 by purchase and 18 from the New Orleans Medical and Surgical Journal. Notation of new titles of recent date, is appended to this report.

Members of the staff have collected material on the following subjects at the request of physicians:

Vaccine treatment of chronic arthritis.
History of the x-ray.
Injuries to the pancreas.
Life of Oliver Wendell Holmes.
Extrophy of the bladder.
Development of vascular surgery.
Still's disease.
Vitamins in surgery.
Liver in deficiency diseases.
Lymphatic cysts of the mesentery.
Moniliasis.
Treatment of Ménière's disease.
Nephropexy.
Cancer of the antrum.
Intravenous use of sulfanilamide in gonorrhea.

Our records show that 1,042 volumes were loaned to physicians during the month; an additional 983 were loaned to students for overnight use giving us a total circulation of 2,026. These figures do not include the great use of books and journals within the Reading Rooms.

NEW BOOKS

Beck, A. C.: Obstetric Practice, 1939.
Bland, P. V.: Practical Obstetrics, 1939.
Magnuson, P. B.: Fractures, 1939.
McLester, J. C.: Nutrition and Diet in Health and Disease, 1939.
Mathews, A. P.: Physiological Chemistry, 1939.
Marriott, W. M.: Infant Nutrition, 1939.

American Surgical Association: Transactions, 1939.

U. S. Public Health Service: Report of the Surgeon-General, 1939.

Eller, J. J.: Tumors of the Skin, 1939.

Madsen, Thorwald: Lectures on the Epidemiology and Control of Syphilis, 1937.

Sansum, W. D.: Manual for Diabetic Patients, 1939.

Greenhill, J. P.: Office Gynecology, 1939.

Coke, Frank: Asthma, 1939.

Cantarow, Abraham: Clinical Biochemistry, 1939.

Carter, R. F.: Diagnosis and Management of Diseases of the Biliary Tract, 1939.

Cohn, Ferdinand: Bacteria, 1939.

Fomon, Samuel: Surgery of Injury and Plastic Repair, 1939.

Perry, C. B.: Medicine for Nurses, 1938.

Breen, G. E.: Fever for Nurses, 1938.

Pickles, W. N.: Epidemiology in Country Practice, 1939.

Chesney, A. M.: Flowering of an Idea, 1939.

Rice, T. B.: In Training, 1937.

U. S. Public Health Service: Serodiagnosis of Syphilis, 1939.

Edwin L. Zander, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

Louisiana State Medical Society — April 22-24, 1940 — New Orleans

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Bi-Parish	First Wednesday in March	Jackson
East Baton Rouge	Second Wednesday of every month	Baton Rouge
Morehouse	Second Tuesday of every month	Bastrop
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	

AN INVITATION

New Orleans and the Orleans Parish Medical Society extend greetings and a very cordial invitation to attend the annual meeting of the Louisiana State Medical Society which will be held on April 22-24 in New Orleans. The Roosevelt Hotel has been selected as headquarters for the meeting.

An excellent scientific exhibit is being arranged, and any member of the Louisiana State Medical Society who might care to present an exhibit should write immediately to Dr. M. E. DeBakey, Chairman of the Scientific Exhibit Committee, Tulane University Medical School, 1430 Tulane Avenue. The space for the exhibit is limited and those of you who wish to participate should write at once.

In addition an excellent group of commercial exhibitors will be there.

The chairmen of the various committees are as follows:

Committee on Arrangements
Dr. H. Ashton Thomas, General Chairman
Chairmen of Subcommittees

Badges ..... Dr. Earl C. Smith
Banquets ..... Dr. C. L. Peacock
Commercial Exhibits ..... Dr. H. B. Alsobrook
Decorations ..... Dr. J. P. Palermo
Entertainment ..... Dr. E. L. Zander
Finance ..... Dr. G. H. Hauser
Golf ..... Dr. W. C. Rivenbark
Halls and Meeting Places ..... Dr. C. J. Brown
Hotels ..... Dr. Joseph C. Menendez
Lanterns ..... Dr. C. J. Tripoli
Luncheons ..... Dr. G. J. Taquino
Publicity ..... Dr. L. H. Strug
Registration ..... Dr. P. G. Lacroix
Scientific Exhibits ..... Dr. M. E. DeBakey
Signs ..... Dr. George C. Battalora
Transportation ..... Dr. P. A. Phillips
Women Physicians ..... Dr. Ruth Aléman

Make your reservations early. Write immediately to Dr. J. C. Menendez, Chairman of the Committee on Hotels, c/o of the Roosevelt Hotel or the Secretary of the Louisiana State Medical Society, 1430 Tulane Ave.

L. H. Strug, M. D., Chairman,
Committee on Publicity.

OUACHITA PARISH MEDICAL SOCIETY

The regular monthly meeting was called to order on February 1 at 8 p. m. by Dr. J. Q. Graves, presiding in place of Dr. D. T. Milam. The minutes of the meeting of January, 1940, were read and approved.

A letter from Dr. Russell H. Frost, Director of the G. B. Cooley Sanatorium, was read. Dr. Frost asked the cooperation of the society for a tuberculosis testing program to be conducted at the Neville High School and also, for the appointment of a visiting consulting staff to the sanatorium. This was discussed by Drs. Talbot, Jones and Hunter. Dr. W. E. Jones moved that the chairman appoint a committee to consult with Dr. Frost and work out a plan. This was seconded by Dr. Talbot and passed. Dr. Graves appointed the following committee: Dr. W. M. Hunter, chairman, Dr. J. B. Vaughan and Dr. W. E. Jones.

L. L. Titche, M. D., Sec.

GRADUATE SCHOOL OF MEDICINE OF L. S. U. MEDICAL CENTER

Continuing its extension program in southwestern Louisiana, the Graduate School of Medicine of Louisiana State University presented two symposia in that section of the State.

On January 22, the Urology Department of the Graduate School of Medicine presented the following program at New Iberia, Louisiana, before the Iberia Parish Medical Society: "Hematuria" by Dr. H. W. E. Walther, Professor of Urology and Director of the Department; "Indications and Contradictions to Cystoscopic Examinations" by Dr. Hugh T. Beacham, Assistant Professor of Urology; "Treatment of Kidney Infections in General Practice" by Dr. Robert Sharp, Assistant in Urology.

On Wednesday night, January 24, a symposium on gastroenterology was presented before the St. Mary Parish Medical Society at Franklin, Louisiana. Dr. Daniel N. Silverman, Professor of Gastroenterology and Director of the Division in the Graduate School of Medicine, spoke on "Common Diseases of the Liver with Particular Reference to Jaundice." Dr. Herbert L. Weinberger, Assistant Professor of Medicine, spoke on "The Management of Gallbladder Disease," and Dr. Louis Ochs, Instructor in Medicine, spoke on "Infections and Metabolic Diseases of the Gallbladder."

These programs followed the symposium on "Pneumococcal Lobar Pneumonia" which was given by the Graduate School of Medicine on January 11 before the St. Mary Parish Medical Society at Franklin, Louisiana, when the following subjects were presented: "The Pathology and Pathogenesis of Pneumococcal Lobar Pneumonia" by Dr. John R. Schenken, Assistant Professor of Pathology and Bacteriology and Director of the Department; "The Diagnosis and Differential Diagnosis of Pneumococcal Lobar Pneumonia" by Dr. Robert Bayley, Assistant Professor of Medicine, and the "Treatment of Pneumococcal Lobar Pneumonia" by Dr. J. O. Weilbaecher, Jr., Instructor in Medicine.

THE FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY

One of the largest meetings of the year, which will bring scientists from all over the country to New Orleans, will be held here March 13-16. The Federation is composed of four constituent societies which will meet simultaneously. These societies are: American Physiologic Society, American Society of Biologic Chemists, American Society for Pharmacology and Experimental Therapeutics, American Society for Experimental Pathology.

AMERICAN BOARD OF INTERNAL MEDICINE

The American Board of Internal Medicine will conduct oral examinations just previous to the meeting of the American College of Physicians in Cleveland and just in advance of the meeting of the American Medical Association in New York City.

Applicants who have successfully passed the written examination and plan to take the oral examination in 1940, should advise the office of the secretary at least six weeks in advance of the date of the examination they desire to take.

The next written examination for 1940 will be given on October 21. Applications for this examination must be filed in the secretary's office by September 1.

Application forms may be obtained from Dr. William S. Middleton, secretary-treasurer, 1301 University Avenue, Madison, Wisconsin.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The general oral and pathological examinations (Part II) for all candidates (Group A and B) will be conducted by the entire Board at the Atlantic City Hospital, Atlantic City, N. J., from Friday, June 7, through Monday, June 10, 1940, prior to the opening of the annual meeting of the American Medical Association in New York City on Wednesday, June 12, 1940.

ANNUAL CONGRESS ON MEDICAL EDUCATION AND LICENSURE

The thirty-sixth Annual Congress was held at the Palmer House in Chicago, February 12-13. Louisiana physicians attending this meeting included: Dr. Urban Maes; Dr. A. J. Hockett, who also attended the meeting of the Executive Committee of the American Hospital Association, Dean B. I. Burns of L. S. U.; Dean Max Lapham of Tulane; Dr. Roy B. Harrison, and Dr. J. H. Musser. Dr. Roy B. Harrison, the retiring president of the Federation of State Medical Boards in the United States, delivered his presidential address on the evening of Monday, February 12. This dinner meeting was also addressed by Dr. Nathan

B. VanEtten, president-elect of the American Medical Association.

NEWS ITEMS

At the meeting of the Fracture Committee of the American College of Surgeons, held in Montreal on February 9-10, Dr. Isidore Cohn, Professor of Surgery and Assistant Director of the Department, Graduate School of Medicine, L. S. U. Medical Center, took part in a symposium on the "Requirements for Undergraduate Instruction in Fractures."

You are earnestly requested to announce in your journal the date for the U. S. Pharmacopeial Convention, namely, May 14, 1940, and to urge eligible organizations and colleges which have not yet done so to send for credential blanks to the secretary of the convention, L. E. Warren, 2 Raymond Street, Chevy Chase, Maryland.

Walter A. Bastedo, M. D.,
President of the U. S. P.
Convention of 1940.

Dr. W. H. Perkins, of New Orleans, was re-elected president of the Tuberculosis and Public Health Association of Louisiana at the meeting held in Monroe, January 31. Other officials to serve during 1940 are Captain G. B. Cooley, of Monroe, first vice-president; Dr. A. J. Hockett, of New Orleans, second vice-president; Walter F. Jahncke, of New Orleans, treasurer; Fred W. Hellbach, of New Orleans, assistant treasurer; Mrs. Joseph Friend, of New Orleans, secretary.

Dr. Hilliard E. Miller attended the meeting of the American Gynecological Club in Ann Arbor, Michigan, February 22-23. Dr. Miller is secretary-treasurer of this organization.

The medical profession of the State of Louisiana obtained reflected glory in one of the members of the State Medical Society, Dr. Marc M. Mouton, who was selected by the people of the state to become their lieutenant-governor for the ensuing four years. Dr. Mouton is to be congratulated on his election to this important position in the state administration.

Another physician candidate for the position of lieutenant-governor was Dr. J. C. Menendez who was defeated in the first primary after a close and exciting race.

Theses for The Foundation Prize of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, in amount $150.00, must be submitted before June first to the secretary, J. R. Bloss, M. D., 418 Eleventh Street, Huntington, W. Va.

There is an opening for a young physician in Avinger, Texas. The local doctor recently died and the community has need of a physician. For information write Mrs. T. M. Johnson.

The next annual meeting of the American Association for the Study of Goiter will be held at Rochester, Minnesota, April 15-17, 1940. The program for the three day meeting will consist of papers dealing with goiter and other diseases of the thyroid gland; dry clinics conducted by guests of the association; and operative clinics conducted by the staff of The Mayo Clinic.

The association is offering the Van Meter Prize Award for the best essay presented in competition.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending January 13, there were 193 deaths in the City of New Orleans, a drop of 32 from the previous week. These deaths were divided 127 white and 66 negro, with 17 deaths in children under one year of age. A slight increase characterized the report for the following week, which concluded January 20. The 206 deaths were separately 130 white and 76 negro, with 8 white children and 12 negro children under one year of age dying at this particular time. During the week which concluded January 27 there were 194 deaths, 121 of which were white and 73 negro and 18 in young children. A marked increase in the number of deaths occurred in the week ending February 3, there being a total of 257, divided 165 white and 92 negro. Four deaths occurred in white children and 17 in negro children under one year of age. For the week which concluded February 10, the deaths numbered 238; of these 166 were in the white and 72 in the negro population, with only 8 deaths in small babies. The marked increase in death rate of the first few weeks of the year, bearing in mind that the three year average for this period was 116, can rightfully be attributed to the most unusual and severe winter, a winter which is probably the coldest that the city has had in the past fifty years.

INFECTIOUS DISEASES IN LOUISIANA

For the week ending January 20, there were reported by the Bureau of Epidemiology of the Louisiana State Board of Health the following diseases in numbers greater than ten: Seventy-nine cases of syphilis, 55 of pneumonia, 43 of gonorrhea, 21 of pulmonary tuberculosis and influenza, 19 of chickenpox, 18 of cancer, 14 of whooping cough, and 12 of scarlet fever. Of the more unusual diseases, two cases of typhus fever were reported, one each from Iberia and Orleans parishes; cerebrospinal meningitis was reported in one instance in Rapides Parish. For the week which came to a close January 27, for the first

time in many weeks, some disease other than syphilis led the list. This could be expected and anticipated. The two most prevalent were pneumonia, with 53 cases, and influenza, with 42 cases; followed by 27 cases of chickenpox, 26 of syphilis, 22 of pulmonary tuberculosis, 18 of scarlet fever, and 11 of cancer. An epidemic of influenza was beginning in the fifth week of the year, which ended February 3. This week there were 121 cases of this disease listed by the physicians of Louisiana. Syphilis, as usual, was at the head of the list with 137 cases; pneumonia took a heavy toll with 57 cases during this week. Other diseases numerically great were 27 cases of chickenpox, 22 of whooping cough, 18 of cancer, 15 of scarlet fever, 14 of gonorrhea, 13 of pulmonary tuberculosis, and 10 of measles. This week a case of typhus fever was found in Avoyelles Parish; two instances of tularemia were found in Orleans Parish and one each in St. James and St. Mary. The influenza epidemic had obtained considerable proportions during the week ending February 10, there being 360 cases found in the state and reported. Pneumonia also was reported in 79 instances as contrasted with the usual to be expected about 40 cases at this time of the year. Other diseases in double figures included 142 cases of syphilis, 36 of pulmonary tuberculosis, 16 of cancer, 15 of measles, 13 of scarlet fever, and 11 each of chickenpox and diphtheria. This week a case of typhus fever was reported from St. Landry Parish; one instance of tularemia (imported) was reported in Orleans and one in Vermilion Parish.

CORRESPONDENCE

February 19, 1940.

Editor-in-Chief,
New Orleans Medical and Surgical Journal,
New Orleans, Louisiana.

Dear Doctor:

Re: Bogus Check Writer

Some weeks ago I wrote to you regarding a forger, who has been preying mostly on oculists and optometrists, giving the details I then had at my command. These details were printed in most every state medical journal and naturally produced some results in my learning much more about his methods and scope of operation.

I am enclosing a circular, which I have caused to be printed, containing much more information. It is self-explanatory, and my object now is to place this in the hands of every oculist in the United States. However, to do this at my own expense would be almost impossible. My only interest is to have this man apprehended and put out of circulation, so that other oculists may be informed and escape being victimized. I know of no better method than to have each state circularized and it appears to me that each state board or state medical journal is in the best position to do this.

Yours very truly,

Herbert C. Kimberlin, M. D.

Note: A copy of this circular may be obtained from Dr. Kimberlin.—Ed.

February 21, 1940.

The Editor
New Orleans Medical & Surgical Journal
1430 Tulane Avenue
New Orleans, Louisiana

Dear Sir:

Will you be kind enough to publish the following in the next publication of your State Medical Journal for the Finnish Relief Fund, Inc.? It will be greatly appreciated if you will do this.

The Finnish Relief Fund, Inc. is sponsored by Mr. Herbert Hoover. It is approved by the Finnish Minister in Washington, D. C., His Excellency Hjalmar Procopé.

It has the main purpose of accepting for the Finnish people and transmitting to Finland any funds contributed for this great cause by the American people.

Contributions, unless specifically intended to be used for war material, will be used for food and clothing for the Finnish civilian population, many of whom are suddenly made homeless by having their houses irreparably demolished by the incendiary bombs from Russian aeroplanes.

Members of the American Medical Association are the only doctors who will be asked to contribute through this Fund.

It is hoped that the profession will respond as generously as possible. It is further hoped that every doctor will make some contribution, and no matter how small it may be, it will be gratefully accepted. We believe the profession should have one hundred per cent of its members become contributors to this most worthy cause.

No money is deducted for expenses from any contribution made through this Fund, and every dollar donated arrives in Finland worth one hundred cents.

The National Chairman of the Medical Division of the Professional Groups of the Finnish Relief Funds, Inc. is Dr. John Frederick Erdmann of New York.

A director (chairman) for the Medical Division has been or will be appointed from each state who will try to get in touch with every member of the American Medical Association of that state by such method as he deems best.

The Executive Director of the Medical Division is Dr. Kerwin W. Kinard who has offices at Fund Headquarters.

All checks should be made payable to the Finnish Relief Fund, Inc., and sent to the Medical

Division of the Finnish Relief Fund, Inc., 420 Lexington Avenue, New York, N. Y.

Thanking you for your cooperation and kindness, I am

Cordially yours,

Kerwin W. Kinard,
Director, Medical Division
Finnish Relief Fund, Inc.

WOMAN'S AUXILIARY
Louisiana State Medical Society

President—Mrs. S. M. Blackshear, New Orleans.

President-elect—Mrs. Roy Carl Young, Covington.

First Vice-President—Mrs. H. O. Barker, Alexandria.

Second Vice-President—Mrs. C. U. Johnson, Monroe.

Third Vice-President—Mrs. W. P. Bordelon, Lake Charles.

Fourth Vice-President—Mrs. T. E. Strain, Shreveport.

Treasurer—Mrs. W. R. Buffington, New Orleans.

Recording Secretary—Mrs. E. C. Melton, Plaquemine.

Corresponding Secretary—Mrs. C. R. Hume, New Orleans.

Parliamentarian—Mrs. A. A. Herold, Shreveport.

Historian—Mrs. Joseph Bath, Natchitoches.

THE ANNUAL CONVENTION
NEW ORLEANS—APRIL 22-24

HEADQUARTERS—ROOSEVELT HOTEL

Registration Desk—Lobby, First Floor

Mrs. James W. Warren.....General Chairman
Mrs. Daniel N. Silverman.....Vice-Chairman

Honorary Committee

Mrs. D. B. Barber — Mrs. S. M. Blackshear
Mrs. Aynaud F. Hébert — Mrs. Gilbert Anderson
Mrs. Lucian W. Alexander

Chairmen of Subcommittees

Mrs. C. Grenes Cole.....Registration
Mrs. Frank J. Chalaron.....Information
Mrs. Andrew V. Friedrichs.....Tickets
Mrs. John T. Sanders.....Printing
Mrs. W. Peters Gardiner.....Publicity
Mrs. Anees Mogabgab.....Exhibits
Mrs. Willard Wirth.....Transportation
Mrs. Joseph LaNasa.....Telephone
Mrs. Adolph Jacobs.....Flowers
Mrs. Michael DeBakey.....Pages
Mrs. Jonas Rosenthal.....Luncheon
Mrs. John Smyth.....Breakfast
Mrs. Frederick L. Fenno.....Tea

PROGRAM

Monday, April 22

1:00 p. m. Registration....Lobby, Roosevelt Hotel

Tuesday, April 23

10:00 a. m. Pre-convention Executive Board Meeting.....Roosevelt Hotel
Mrs. S. M. Blackshear, presiding.
Invocation....Rev. Robert S. Coupland

12:30 p. m. Luncheon.....Arnaud's Restaurant
(Tickets $1.25)
Toastmistress....Mrs. W. R. Brewster

8:00 p. m. Open Meeting, Louisiana State Medical Society, followed by President's Reception, Roosevelt Hotel.

Wednesday, April 24

10:00 a. m. Breakfast.....Orleans Club
(Tickets $1.10)

11:00 a. m. General Session.....Orleans Club
Mrs. S. M. Blackshear, presiding.
Invocation.....Rev. John J. Adams
Address of Welcome..Mrs. C. R. Hume
Response.....Mrs. E. L. Gill
In Memoriam.....Mrs. J. M. Batchelor
Vocal Solo.....Mrs. Plauché Villere
Accompanied by Miss Edith B. Wolfe
Benediction.....Rabbi Mendel Silber
Presentation of Past Presidents' Pins.....Mrs. Courtland P. Gray
Reading of Minutes
Reports:
State Officers
State Committees
Parish Auxiliaries
Special Committees
Report of Woman's Auxiliary to A. M. A.....Mrs. Frederick G. Ellis
Report of Woman's Auxiliary to S. M. A.....Mrs. W. R. Buffington
Unfinished Business
Recommendations by Executive Board
New Business
Report of Nominating Committee
Election of Officers
Introduction of New Officers
Announcements by New President
Adjournment, immediately followed by Post-convention Executive Board Meeting.....Mrs. Roy Carl Young, President, presiding

3:30 p. m. Tea, in honor of Mrs. Roy Carl Young, Pontalba Tea Room, 546 St. Peter Street.

AUXILIARY NOTES

ORLEANS PARISH

The Woman's Auxiliary to The Orleans Parish Medical Society held its regular meeting on Wednesday, February 14. This was the first meeting with Mrs. Aynaud F. Hébert, the new president, presiding.

Mrs. Hébert and her co-workers are already deep in plans for the State Convention to be held in New Orleans, April 22-24, as evidenced by the program published in the first part of this news section.

Dr. G. C. Anderson, President of The Orleans Parish Medical Society, gave an interesting and worthwhile talk on "Periodic Health Examination."

The meeting was followed by a tea.

Mrs. D. C. Browne,
Press and Publicity Chairman.

OUACHITA PARISH

The Auxiliary to the Ouachita Parish Medical Society met on Thursday, February 1, in Monroe, with several new members attending. Mrs. C. P. Gray, president, presided over the business meeting, when plans were completed for the annual Doctors' Day program on March 30.

Mrs. Morgan Simonton gave an amusing reading on the "Common Cold." The meeting was preceded by a luncheon.

Mrs. J. W. Cummins,
Press and Publicity Chairman.

TALKS ON WAGNER BILL

Dr. Charles B. Odom, of New Orleans, spoke on the Wagner Health Bill on February 13 at a public meeting in Opelousas, sponsored by the Woman's Auxiliary to the St. Landry Parish Medical Society. Dr. Odom stated the provisions of the Wagner Bill and gave the objections of the reference committee of the A. M. A. Both Caddo and Washington parishes are having such meetings, open to the public, this month.

Mrs. F. C. Shute, Chairman,
Committee on Public Relations.

MATERIAL FOR PROGRAMS

For the benefit of all parish auxiliary presidents, we would like to make the announcement that the Research and Romance Committee of the Woman's Auxiliary to the S. M. A. has on file valuable material which might be useful in carrying out auxiliary programs. Research has been made into the history of medicine and these papers should be of great interest. This material may be borrowed for a period of two weeks, postage both ways being paid by the borrower. Address Mrs. H. Leslie Moore, Chairman, 4204 Beverly Drive, Dallas, Texas.

A. M. A. CONVENTION

The eighteenth annual convention of the Woman's Auxiliary to the A. M. A. will be held in New York City, June 10-14, 1940, with headquarters in the Hotel Pennsylvania. In view of the fact that the second edition of the World's Fair will accelerate advance hotel reservations, it is urged that reservations be made immediately through the Housing Bureau, which has been set up by the A. M. A., under the direction of Dr. Peter Irving, Room 1036, 233 Broadway, New York City.

On March 30, Doctors' Day will be celebrated by all the auxiliaries in Louisiana. There will be many and varied ways in which our doctors will be told how much we honor them.

Respectfully submitted,

Mrs. Edgar Burns,
Press and Publicity Chairman.

BOOK REVIEWS

A Textbook of Surgery: Edited by Frederick Christopher, B. S., M. D., F. A. C. S. Philadelphia, W. B. Saunders Co., 1939. Pp. 1695. Price $10.00.

This book, appearing in its second edition, has been revised to keep it abreast with the advancements in surgery. The same principle is adhered to as in the first edition, that is, each subject being written by a separate contributor. Many books on internal medicine have followed the same plan. Each writer, of which there are 188, presents his material in the manner he has found to be the most successful in instructing his students.

The book consists of 1,651 descriptive pages with many illustrations and well selected diagrams. Since the first edition many of the subjects have been revised, due to the death of the original contributors, and other subjects have been added by many able writers. The majority are well covered and to the point.

The etiology, pathology and diagnosis are ably presented but description of operative technic is woefully lacking. The bibliography is short, though well selected from recent references. The great advantage of a book so written is the ease with which it can undergo revision.

The reviewer readily recommends this book for reference, but not as a basic text.

EMILE BLOCH, M. D.

Public Health Law: By James A. Tobey, Dr. P. H., LL.D. New York, The Commonwealth Fund, 1939. Pp. 414. Price $3.50.

It is with considerable hesitation that a physician approaches a book bearing a title which indicates that it deals primarily with law. The author of the book in question, a member of the New York Bar, is also a fellow of the American Public Health Association, an associate fellow of the American Medical Association, and lecturer on pub-

lic health law at the Harvard University School of Public Health and the Massachusetts Institute of Technology. In his preface he writes that the book is "the culmination of more than fifteen years' continuous study of the legal aspects of public health."

The excellent foreword is by Dr. Charles V. Chapin, perhaps the most able man concerned with public health in this country. One cannot resist the temptation to quote from this foreword: "In our complicated civilization, many restrictions must be placed on individual conduct in order that we may live happily and healthfully one with another. It is a common pastime to decry legislation. Many wittily declare that the most pressing duty of Congress and our state legislatures is to adjourn. Some of us differ decidedly from this view. Every one condemns unnecessary legislation and equally abhors ill considered and badly framed laws, but the relations of human beings are becoming more complex every day. It would appear that the rules governing these relations must become more complex. There is no doubt, too, that those who 'on general principles' condemn 'meddling legislation,' when it comes to specific problems affecting themselves, are in favor of rat proofing plague infected cities, of stamping out virulent smallpox by drastic measures, of compelling one city to cease discharging its sewage into its neighbor's drinking water and of dealing summarily with him who peddles tuberculosis with his milk. Doubtless sanitary instruction will increase by leaps and bounds, but doubtless there will also be in the near future more, rather than fewer, sanitary laws."

The book is divided into four sections: I. Public Health Law and Administration; II. Powers and Duties of Health Departments; III. Liability; IV. Legislation and Law Enforcement. One of the appendices is a decision of the Supreme Court, rendered in 1905, upholding a compulsory vaccination statute, and these particular pages are well worth study by any one interested in the broad legal basis for such public health procedure. A quotation from this decision (pp. 371-372) illustrates this point: "We are not prepared to hold that a minority, residing or remaining in any city or town where smallpox is prevalent, and enjoying the general protection afforded by an organized local government, may thus defy the will of its constituted authorities, acting in good faith for all, under the legislative sanction of the state. If such be the privilege of a minority, then a like privilege would belong to each individual of the community, and the spectacle would be presented of the welfare and safety of an entire population being subordinated to the notions of a single individual who chooses to remain a part of that population. We are unwilling to hold it to be an element in the liberty secured by the Constitution of the United States that one person, or a minority of persons, residing in any community and enjoying the benefits of its local government, should have the power thus to dominate the majority when supported in their action by the authority of the state."

The book is not made up of a collection of dry quotations from statutes. It illustrates the application of laws to specific situations, and cites references to important legal decisions. Throughout are passages which amount almost to pleas or arguments for advancing the cause of public health.

To show that a knowledge of law and a knowledge of science do not always travel hand in hand, one learns with surprise that granuloma inguinale and lymphogranuloma are of bacterial origin (p. 166). One learns also that the application of scientific measures sometimes trails behind legal practice: on occasion the law has held municipalities financially responsible for typhoid fever (pp. 278-279).

On the whole, this is a very satisfactory volume, one which should be in the library of every health officer and every teacher of public health.

GEORGE W. MCCOY, M. D.

Elementary Anatomy and Physiology: By James Whillis, M. D., M. S., F. R. C. S. Philadelphia, Lea & Febiger, 1939. Pp. 342; illus. Price $3.50.

The elements of anatomy are here treated in a manner which adapt this book to use by nurses, students of physical education and others for whom the subject must be much abbreviated and simplified. Physiology is subordinated to anatomy, but considered sufficiently to give proper emphasis to the functional significances of the structural features. The writing is simple and direct. The illustrations, all of which are new, are beautifully executed line drawings, wisely chosen and planned to fit the purpose of the book as an elementary text.

HAROLD CUMMINS, PH. D.

Recent Advances in Industrial Hygiene and Medicine: By T. M. Ling, M.A., B.M. (Oxf.), M.R.C.P. (London). Philadelphia, P. Blakiston's Son & Co., Inc., 1937. Pp. 212. Price $3.50.

Like all "recent advances" series Ling's compilation has been highly selective of subjects to be included. The table of contents reveals the breadth of selections: I. Medical Supervision of Workers; II. Industrial Sickness; III. Industrial Accidents; IV. The Neuroses of Industry; V. Industrial Fatigue; VI. Ventilation; VII. Industrial Lighting; VIII. Dust and Its Effects; IX. Noise; X. Lead Poisoning; XI. Toxic Effects of Gases; XII. Industrial Dermatoses.

These titles are, of course, supplementary to the general literature and do not claim to be in any way exhaustive treatments of the subjects. References, however, are adequate.

The contents and treatment in general reveal the inroads general medicine and the specialties

have made into industrial medicine. The outline of the duties of the industrial physician and his moral and ethical responsibilities points well to the author's conviction, that this is one of the outstanding advances in industrial medical practice. The same may be said of the appreciation of the importance of individual variations in adaptability to specific types of work whether due to physical or psychic peculiarities.

For supplementary reading this is a good book. It does not go too far ahead of acceptable opinions on the subjects covered, nor does it unqualifiedly accept all the conclusions drawn by others, which the author wisely puts in quotes. It satisfactorily bridges the gap between the literature and the textbook on a subject of ever widening scope.

WILLIAM H. PERKINS, M. D.

A Synopsis of Regional Anatomy: By T. B. Johnston, M. D. Philadelphia, Lea & Febiger, 1939. Pp. xxi + 462; figs. 17. Price $4.50.

Testimony as to the usefulness of the present volume is afforded by the call for successive editions since its first publication in 1921. The work is now in the fourth edition, and there has been one reprinting (of the third edition, 1936).

The design of the book is aptly indicated in the title. It makes no pretension to being more than a synopsis aimed to guide the student in review. It is neither a dissecting manual nor an abbreviated text, but a systematic organization of subject matter adapted to the review of regions previously dissected and studied with the aid of a standard text. Except in the section dealing with the central nervous system there are no illustrations, the omission being explained by the intent to encourage such review with the dissected parts before the student, as opposed to review on the basis of printed pictures. The arrangement, again as indicated in the title, is by regions with the exception that osteology is brought together in one section. The sections are: arm; leg; thorax; abdomen; head and neck; central nervous system and organs of special sense; osteology. Subdivision under each section is likewise regional, as exemplified by the following headings of the section devoted to the arm: pectoral region and axilla; scapular region; upper arm; front of forearm; palmar aspect of wrist and hand; back of forearm and hand; joints. There is a glossary of B. N. A. terms, accompanied by anglicized equivalents following the British revision. The latter are given precedence in the text. In the making of this fourth edition the book has been generally revised, and some new material has been added, particularly text and illustrations in the section on the central nervous system.

HAROLD CUMMINS, PH. D.

Asthma: By Frank Coke, F. R. C. S. Baltimore, The Williams & Wilkins Co., 1939. Pp. 266. Price $4.00.

This is the second edition of a small but valuable book dealing chiefly with the etiology and control of asthma with a short chapter on the other forms of allergy. The usual theories and methods are brought well up to date. What impressed the reviewer most was that the author had not used lipiodol in any of his cases; the author stresses the use of autogenous vaccine. This conservative attitude is more than balanced by other parts of the book.

The four most interesting chapters deal with (1) the control of the aspirin sensitive patient with vaccine; (2) the control of the famous hemoclastic cases of the French authors with collosol manganese and sanocrysin; (3) oral pollen and oral peptone therapy; (4) the Földes diet in the water retention type of asthma cases.

The author deals with the use of histamine in asthma but fails to mention the earlier work of the reviewer along these lines.

The hope expressed by the author of helping others better to understand allergic and anaphylactic processes and of stressing the importance of searching for a microbic cause in special asthma group has been well materialized in these 258 pages.

NARCISSE F. THIBERGE, M. D.

Diagnosis and Management of Diseases of the Biliary Tract: By R. Franklin Carter, M. D., Carl H. Greene, M. D., and John Russell Twiss, M. D. Philadelphia, Lea and Febiger, 1939. Pp. 432. Price $6.50.

As stated by the authors in their preface, "this discussion of the diseases of the biliary tract covers the recent concepts of basic factors in diseases of the gallbladder, their interpretation and specific management, as practiced in the clinic for the Study of Diseases of the Liver and Biliary Tract, of the Departments of Medicine and Surgery, New York Post-Graduate Medical School and Hospital, Columbia University, and gives a review of operative results in 3,986 patients treated during the past 20 years."

The book is composed of six parts. The first section is devoted to practical considerations concerning fundamental factors in biliary tract disease, including a review of the physiology of the gallbladder, the relationship of biliary stasis to biliary disease, the mechanism of pain due to biliary tract disease, factors influencing the formation of gall stones and the occurrence of jaundice, and the clinical application of hepatic function tests.

Part two is concerned with methods of clinic examinations for the diagnosis and study of patients with biliary tract disease. Included in this

part are descriptions of technic for tests of hepatic function, and biochemical methods of investigation.

In part three, the medical management of diseases of the biliary tract, including the care of postoperative patients who have been subjected to biliary tract surgical procedures, is presented.

The surgical management of biliary tract disease associated with gall stones, as well as dyskinesia of the gallbladder and common bile duct, are the subject matter included in part four.

Part five consists of a critique of operative experience in diseases of the biliary tract and surgical diseases of the pancreas, and includes discussions concerning the management of acute cholecystitis, perforated cholecystitis, and surgery of the common bile duct.

An appendix, designated as part six, includes tables which give information concerning food values of interest in the management of patients with biliary tract disease.

The authors have selectively garnered the important early as well as recent contributions to knowledge concerning diseases of the biliary tract, and within this comparatively small volume there is presented with remarkable completeness the modern concepts and methods of management which are of interest and practical application in biliary tract disease.

AMBROSE STORCK, M. D.

Practical Obstetrics: By P. Brooke Bland, M. D., and Thaddeus L. Montgomery, M. D. Philadelphia, F. A. Davis Co., 1939. Pp. 877. Price $8.00.

The third edition of this useful book does credit to its authors. The format is pleasing in appearance and helpful to the reader, with excellent printing and large headings to make reference reading easier. Illustrations are numerous and instructive. Sections on subjects of special interest to the reviewer have been read with satisfaction and found fully adequate. The student or practitioner will find in this volume what he needs for efficient service to prospective mothers.

HERMANN B. GESSNER, M. D.

Human Helminthology: By Ernest Carroll Faust, A.B., A.M., Ph.D. Philadelphia, Lea & Febiger, 1939. Pp. 780. Price $8.50.

In his preface to the first edition of this book the author called attention to the fact that in no field of parasitology had greater progress been made in both the clinical and biologic aspects than in helminthology, although the material in which that progress was set forth was widely scattered and was chiefly periodical. He therefore proposed to present in a convenient and accessible form this material, plus his own observations and experience. That he succeeded in his purpose is demonstrated by the fact that a second edition has proved necessary.

This is not surprising. The author is an authority in his field, and the original text was both comprehensive and up-to-date. The second edition has all of the virtues of the first and should have the same appeal for and usefulness to clinicians, sanitarians and zoologists.

Both the important and the minor helminth infections in man are treated comprehensively and from the aspects of the structure of the parasite, its life cycle, geographic distribution, epidemiology, and pathogenicity, and the clinical manifestations, diagnosis, therapeusis, prognosis and prophylaxis of the parasitic diseases. The clinician will find the new section on anthelmintics and their use particularly helpful. The symptomatology and diagnosis of the various helminthiases are rendered more intelligible by the correlation of the clinical manifestations of helminth infections with the pathology and development of the parasites in the body. The excellent description of the pathologic changes caused by helminths might well be emulated in many textbooks of pathology. The zoologist will note with approval the adoption of the Chitwood and Chitwood classification of the more comprehensive groupings of the Nematoda.

With the usual thoroughness and accuracy which characterize all of his contributions, the author has included the important current literature on this subject. The technical appendix covers recent innovations in diagnostic procedures such as the NIH swab for *Enterobius vermicularis* ("pinworm" infection) and the zinc sulphate flotation technic devised in the author's own laboratory.

The text is profusely illustrated with original plates and drawings by the author, many of which have been redrawn and otherwise improved over those of the previous edition.

The book is notably free from errors and omissions, and not the least of its virtues is the careful proof reading, which has reduced the annoyance of typographical errors practically to zero.

J. CLYDE SWARTZWELDER, PH. D.

Obstetrical Practice: By Alfred C. Beck, M. D. Baltimore, Williams & Wilkins Co., 1939. Pp. 858. Price $7.00.

This is the second edition of a textbook of obstetrics for students and young practitioners and as such is well-organized, well-illustrated and condensed to concise statements. It includes the recent advances in the endocrinology of pregnancy as well as revision in the chapters on toxemia, abortion, and other complications of pregnancy. A new chapter on retained and adhered placenta has been added.

The clear and concise presentation of the problems of obstetrics as well as the accompanying illustrations make this an excellent text for beginners and men who do a limited amount of obstetrics. For the graduate student, a more complete and thorough text is necessary.

JOHN C. WEED, M. D.

The Flowering of an Idea: By Alan M. Chesney, M. D. Baltimore, The Johns Hopkins Press, 1939. Pp. 87. Price $1.50.

This play, written by the Dean of the Johns Hopkins Medical School, was presented May 4, 1939, as part of the celebration of the fiftieth anniversary of the opening of the Johns Hopkins Hospital. It traces the development of Mr. Johns Hopkins' idea to establish a hospital as part of the University which now bears his name. Speeches delivered at the opening of the Hospital make up a considerable part of the play. The aims and purposes of a university hospital are clearly expressed in the words of Dr. John Shaw Billings and Dr. Daniel C. Gilman.

EDWARD MATTHEWS, M. D.

Physiological Chemistry: By Albert P. Mathews, Ph. D. Baltimore, Williams and Wilkins Company, 1939. Pp. 1488. Price $8.00.

Medicine is today rapidly becoming an exact science. Certainty is replacing guessing in the diagnosis and treatment of disease. Biochemistry, including chemistry and physics, is playing a leading role in this connection.

The sixth edition of Professor Mathews' well-known text on biochemistry is largely written for the student of medicine, the graduate student, and the busy physician. Each of the 35 chapters, occupying 1429 pages, has been revised. This shows the prodigious development of biochemistry at the present time. The book is divided into two parts, the first (11 chapters) is on the chemistry of protoplasm and the cell, and the second (24 chapters) is on the mammalian body considered as a mechanism, its growth, maintenance, energy transformations and waste substances. Numerous references to the literature are given and the index occupies 37 pages.

The fundamentals of the chemistry of the body are brought up to date and are presented in an interesting and instructive way. This gives the reader a good knowledge of the present day point of view in this field. The chapters on digestion and absorption, respiration, skin and eye, endocrines and vitamins, will be especially interesting to clinicians specializing in these fields.

HOWARD H. BEARD, PH. D.

Dr. Colwell's Daily Log for Physicians: Champaign, Illinois, Colwell Publishing Company, 1940. Price $6.00.

A volume which provides a daily record system for the doctor who wishes an easy way to keep his accounts accurately. Charges, receipts, and expenses are entered as they come along, then with simple arithmetic, in a few minutes' time, important figures appear. Net profit for the month, for the year, income tax essentials, otherwise so laboriously figured, collection losses,—these and other items are easily located, ready for future reference.

PHILIP H. JONES, JR., M. D.

Fevers for Nurses: By Gerald E. Breen, M. D., Ch. B. (N. U. I. Dub.), D. P. H., D. O. M. S. (R. C. P. Lond., R. C. S. Eng.). Baltimore, William Wood and Company, 1938. Pp. 199. Price $2.00.

Concisely presented in commendably simple language, this digest of lectures delivered to London nurses (to prepare them for examinations as "Fever-Nurses") is a direct answer to the author's propounded question, "How much is the nurse expected to know?" Explicit directions are given for the nurse's conduct when confronted with a febrile patient or one with a communicable disease, simple means of differentiating among the exanthemata are stressed, and outlines of therapy are presented. Any nurse studying or any instructor teaching "communicable diseases" will profit by reading this small book.

SYDNEY JACOBS, M. D.

PUBLICATIONS RECEIVED

Lea & Febiger, Philadelphia: Congenital Cleft Lip, Cleft Palate and Associated Nasal Deformities, by Harold Stearns Vaughan, M.D., D.D.S., F.A.C.S.

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